(2)

17018

BURMA GAZETTEER

AMHERST DISTRICT

VOLUME A

K

BURMA GAZETTEER

AMHERST DISTRICT

VOLUME A

COMPILED BY

P. E. JAMIESON, I.C.S.

(ASSISTANT COMMISSIONER)

SETTLEMENT OFFICER, AMHERST

RANGOON

OFFICE OF THE SUPERINTENDENT, GOVERNMENT PRINTING, BURMA

1913

[Price, Rs. 1-8-0=2s.-3d.]

LIST OF AGENTS

FOR THE

SALE OF GOVERNMENT PUBLICATIONS.

IN INDIA:

THACKER, SPINK & Co., Calcutta and Simla.
W. NEWMAN & Co., Calcutta.
THACKER & Co., Bombay.
HIGGINBOTHAM & Co., Madras.
SUPERINTENDENT, AMERICAN BAPTIST MISSION PRESS, Rangoon.
* D. B. TARAPOREVALA & SONS & Co., 103, Meadow Street, Fort, Bombay.
BUTTERWORTH & Co. (INDIA), LTD., 8-2, Hastings Street, Calcutta.

IN ENGLAND:

HENRY S. KING & Co., 65, Cornhill, E.C., London.
CONSTABLE & Co., 10, Orange Street, Leicester Square, W.C.
KEGAN PAUL, TRENCH, TRUBNER & Co., 68—74, Carter Lane, E.C.
BERNARD QUARITCH, 11, Grafton Street, New Bond Street, W.
P. S. KING & SON, 2 & 4, Great Smith Street, Westminster, London, W.S.
GRINDLAY & Co., 54, Parliament Street, S.W.
B. H. BLACKWELL, 50 & 51, Broad Street, Oxford.
DEIGHTON BELL & Co., Cambridge.
W. THACKER & Co., 2, Creed Lane, London, E.C.
LUZAC & Co., 46, Great Russell Street, London, W.C.
OLIVER & BOYD, Tweeddale Court, Edinburgh.
E. PONSONBY, LTD., 116, Grafton Street, Dublin.

ON THE CONTINENT:

R. FRIEDLANDER & SOHN, 11, Carlstrasse, Berlin, Germany.
OTTO HARRASSOWITZ, Leipzig, Germany.
KARL W. HIERSEMANN, Leipzig, Germany.
ERNEST LEROUX, 28, Rue Bonaparte, Paris, France.
MARTINUS NIJHOFF, The Hague, Holland.

* For the sale of official publications excluding those of the Legislative Department of the Government of Burma.

TABLE OF CONTENTS.

CHAPTER I.

PHYSICAL DESCRIPTION.

CHAPTER II.

HISTORY AND ARCHÆOLOGY.

CHAPTER III.

THE PEOPLE.

CHAPTER IV.

AGRICULTURE AND IRRIGATION.

CHAPTER V.

FORESTS AND MINERALS.

CHAPTER VI.

OCCUPATIONS AND TRADE.

CHAPTER VII.

MEANS OF COMMUNICATION.

CHAPTER VIII.

FAMINE AND SCARCITY.

CHAPTER IX.

GENERAL ADMINISTRATION.

CHAPTER X.

REVENUE ADMINISTRATION.

PAGE

CHAPTER XI.

LOCAL SELF-GOVERNMENT.

CHAPTER XII.

EDUCATION.

CHAPTER XIII.

PUBLIC HEALTH.

CHAPTER XIV.

MINOR ARTICLES.

AMHERST DISTRICT.

VOLUME A.

CHAPTER I.

PHYSICAL DESCRIPTION.

The Amherst district lies between 14° 56′ and 17° 2′ North and 97° 27′ and 98° 51′ East, and forms a part of the Tenasserim division of Lower Burma. It is bounded by the Thatôn district on the north, Siamese territory on the east, Tavoy district on the south and the Gulf of Martaban on the west, and contains an area of 7,059 square miles. On the north the Salween, Gyaing and Hlaingbwè rivers, and on the east the Dawna range and Thaungyin river provide natural boundaries, as also does the Gulf of Martaban on the west, but on the south and south-east the boundaries are not so well defined. Boundaries.

The district forms part of the territory ceded by the treaty of Yandabu on February 24th, 1826, at the conclusion of the first Burmese war. By this treaty Assam, Arakan, and the coast of Tenasserim, including the portion of the province of Martaban east of the Salween, were acquired. The selection of the Salween as the boundary, however, involved a difficulty, as the two mouths of the river embrace the large and fertile island of Bilugyun, and the Burmese maintained that the southern mouth was the real one. The matter was finally settled by floating two cocoanuts tied together down the river to determine by the course they took which was the real mouth. They were ultimately carried out to sea by the northern mouth, and Bilugyun became British territory. The Amherst district at this time was thus the northernmost portion of the British provinces of Tenasserim, and was the

headquarters of the administration, which were established originally at Amherst, but afterwards at Moulmein. The newly acquired territory was styled "The provinces of Tavoy, Mergui, Ye and Eastern Martaban." In 1837 the province of Eastern Martaban was extended by the addition of the province of Ye. In 1862 the Tenasserim provinces were joined to Pegu and Arakan as part of the province of British Burma, and in 1866, on the formation of the Shwegyin district, the boundaries of Amherst district were again enlarged by the addition of the townships of Pagat, Thatôn and Martaban, which had formed part of the "Province of Martaban" since the second Burmese war in 1852. This demarcation held good until 1895, when, on the formation of the Thatôn district, these three townships became part of the new district, and the northern mouth of the Salween again became the boundary of Amherst. The Gyaing forms the continuation of this northern boundary, except that the revenue circles of Kado and Kawtun on its north bank are attached to this district. The boundary with Siam was fixed at the Thaungyin in 1848, and has remained constant. The remaining part of the Siamese boundary south of the Thaungyin was demarcated in 1896, but much of it is now not easily traceable.

The northern boundary of the district from the northern mouth of the Salween follows the Salween as far as the point where the small stream, which forms the northern boundary of the Kado and Kawtun circles, flows into it. Thence it follows the boundary of these two circles to its junction with the Gyaing river. The Gyaing then forms the boundary until it divides into the two streams of the Hlaingbwè and Haungtharaw, when the former becomes the boundary as far as its junction with the Pata stream. The boundary follows the Pata stream in a north-easterly direction to its source, whence it runs approximately north as far as the Hlaingbwè and Mepale watershed. It continues along this watershed in a north-westerly direction for about three miles, and then turns north-east across the Mepale headwaters and the Mepale-Thaungyin watershed to the Thaungyin river. Here the boundary turns south following the course of the Thaungyin river, to its source, the Thaungyin above its junction with the Mepale being known as the Gawle. From here the boundary is supposed to enclose the catchment area of the Thaungyin and its western tributaries, but the demarcation has been largely obliterated by time, and with the exception of three heaps of stones at the source of the Gawle and two blazed trees many miles to the south

the boundary marks are not traceable, as was discovered in 1911 in connection with the settlement of a proposed forest reserve which was to have marched with this boundary. The report of the Boundary Demarcation Officer, which received the sanction of Government, is not altogether clear as to the boundary here. It is supposed to be the main watershed from the cairn near the source of the Gawle to Mugadok *taung*. On the map accompanying the report there is a note "doubtful whether main watershed" against the part of this boundary line north of Nyaungbin *taung*, where stand the two trees found by the Forest Settlement Officer. Between the cairn and the trees there is no declared boundary mark except a peak cleared of all but a single tree by Mr. Collins in 1895. This peak stands at the head of the Melamaung stream, and the Commission were unable to agree whether it was actually on the main watershed or not. South of Nyaungbin *taung* no question arises, and the boundary follows the admitted watershed, which bends west and then south, as far as Mugadok *taung*. Thence the boundary continues south to Tamokan *taung*, and Titondi *taung* and thence to a cairn on the left bank of the Haungtharaw river, in a straight line between each of these points, being further marked by cairns erected at intermediate points on the right bank of the Menanda stream and on the banks of the Mintharaung and Pankrang and Timaw rivers. From the Haungtharaw cairn, known as Bagge's cairn after Lieutenant Bagge who originally erected it, the boundary continues in a straight line to Salangyan rock, on which is another cairn; thence to Hlaingwasu *taung*, and thence to Khondan rock. Between the last two points are three cairns on the Telu river. The boundary then proceeds in a straight line to Tonban rock, and thence to Peinthanu *taung*, being further marked by three large posts embedded in earth mounds at the spot where the path to Tonban crosses the line. The boundary then proceeds to a large cairn on the left bank of the Megathat river, passing another cairn at a spot where the Tonban path again crosses the line. From the Megathat river the line goes on to Supowi *taung* marked by cairns at intervals on the way. From Supowi *taung* the boundary turns north-westward and then south-westward following the main watershed *viâ* Kuye and Krondo to the Hlaingpado *taung*, being marked on the way by numerous cairns. From Hlaingpado *taung* a straight line to the central pagoda of the group known as the Three Pagodas forms the boundary. This demarcation from the source of the Gawle to the Three Pagodas was the work of Mr. Rawlings,

Assistant Superintendent of Police, and cost numerous lives both on this and previous occasions owing to exposure and fever. Mr. Rawling's report concludes :—" Of the part of the frontier where our work lay, the late Mr. Merrifield wrote as follows : 'This portion of the frontier is literally poisonous ; it killed Mr. O'Riley in his first season, and three of the Siamese Commissioners ; the delimitation killed Lieutenant Bagge in due course, and nearly every native sent up by either side.' "

From the Three Pagodas the boundary proceeds to Hsadeik *taung*, whence it turns due south along the watershed of the Ye river, which is also the boundary of the Yechaung forest reserve and demarcated as such. At this point a trigonometrical station at a height of 4,233 feet marks the point at which the boundaries of the Amherst and Tavoy districts and Siam meet. Thence the boundary follows the southern watershed of the Hangan stream in a westerly direction as far as the Mitawlagyi stream, which it follows to the sea. The western boundary of the district is formed by the Gulf of Martaban.

General Description.

The district comprises large alluvial plains, watered by the Gyaing and Ataran rivers and their tributaries, and bounded on the east by the mountainous and densely wooded country occupied by the Dawna range and its spurs, and on the west by the low Taungnyo range running parallel with the sea. Between the latter range and the sea is a narrow strip of alluvial plain, joined on the south to the valley of the Ye river, which however is of no great extent. Between the north and south mouths of the Salween lies Bilugyun, an island of rich alluvial soil rising in the centre to a low range of hills, which are a continuation of the Thatôn hills stretching northwards from Martaban. The formation distinctly suggests that the true mouth of the Salween is the southern one, though the Taungnyo range also is plainly a continuation of the Thatôn hill system. On the eastern side of the Dawna range is the narrow valley of the Thaungyin, the left bank of which is included in the Amherst district. The alluvial plains are studded with massive out-crops of limestone many hundred feet in height, forming a very conspicuous feature of the landscape. As the land rises towards the hills the soil becomes gravelly, and large areas of *indaing* jungle take the place of the paddy fields which occupy the bulk of the centre of the district.

Mountains. The Dawnas.

The eastern side of the district is occupied by the Dawna range, which is 5,500 feet at its highest point in 16° 5′ North

and 98° 42′ East. It presents the appearance of a wooded plateau of laterite cut up into hills by the drainage action. In places underlying rocks projecting into the bed of the Thaungyin river indicate volcanic agency. The range runs south-east for 200 miles and forms the watershed between the Thaungyin and Haungtharaw, throwing out numerous spurs. The main range of which it forms part is the watershed between the Bay of Bengal and the Gulf of Siam.

One of the main routes from British territory into Siam crosses the Dawnas to Myawaddy, an old and once fortified town on the left bank of the Thaungyin in 16° 42′ North and 98° 32′ East. A Public Works Department road runs from Kyondo on the Haungtharaw to Myawaddy, and very fine views can be obtained *en route*. The southernmost route into Siam runs by way of the pass at the Three Pagodas, which is twenty-five days from Bangkôk. The prospect from the summit of this pass was described by Assistant Surgeon Helfer in 1838 or 1839 as "in many respects grander than the scenery in Switzerland, on the Appennines or the Jura Alps." There is another route which leads from the Haungtharaw river in 15° 41′ North and 98° 35′ East to the Siamese village of Phra Mayklaung, and another track up the Menanda stream, a tributary of the Haungtharaw, leads northwards to the sources of the Thaungyin.

The Taungnyo Hil

From the Hsadeik hill of the main range in 15° 17′ North and 98° 15′ East the Taungnyo chain of hills extends northwards parallel to the sea, till it terminates close to Moulmein. The ridge in Moulmein town is practically a continuation of this range. These hills are nowhere of any considerable height.

The hills of Bilugyun island are composed of rich, red earth in which laterite and granite boulders are embedded. They rise more abruptly from the plain than the Taungnyo range, but are of less height.

Rivers. Salweer

The largest river in the district is the Salween, which falls into the sea below Moulmein, and to it Moulmein owes its existence as a port. Despite its great size and length from its unexplored source in the interior of the continent, it is not navigable for sea-going vessels above Moulmein, and even navigation into the port is intricate for vessels of considerable size. The northern mouth is altogether impracticable for shipping. Just above Moulmein the Salween is joined from the eastward by the Gyaing and Ataran.

Gyaing.

The Gyaing is a broad river much intersected by islands and shoals, and flows almost due west from the point where it is formed by the junction of the Hlaingbwè and

Haungtharaw, the former flowing from the north and the latter from the south. It is navigable for country craft and small launches throughout the year.

Ataran. The Ataran is formed by the junction of the Zami and Winyaw streams in the south of the district. It is a narrow and deep stream flowing between high banks covered with dense foliage. It is tidal throughout its length, and the Zami and Winyaw streams also retain a tidal character for a remarkable distance above their junction. Steam launches run up the Ataran and up the Zami as far as Kya-in Seikkyi, and the Winyaw is also navigable for small launches as far as Seikkale.

Besides the Hlaingbwè and Haungtharaw, Zami and Winyaw both the Gyaing and Ataran possess a large number of smaller tributaries, some of them, such as the Kayin stream, which flows into the Gyaing at Karit, navigable by country boats for a considerable distance.

Thaungyin. The Thaungyin, which rises in the Dawnas in 16° 27′ North and 98° 50′ East at the height of 1,100 feet above the sea, flows northwards into the Salween. Its course is marked by rapids and falls, and its chief use is for the transport of timber extracted on the hills on either side of it.

Other Rivers. The Ye river in the extreme south of the district rises in the main range, and flows into the sea at Ye. It is an inconsiderable stream, and its approach from the sea is dangerous in anything but fine weather.

The Wagaru stream rises in the Taungnyo range, and flows westwards into the sea near Amherst. Its chief importance lies in the fact that it provides Amherst with its harbour, which was one of the considerations which led to the selection of that site originally for the headquarters of the Tenasserim Provinces. Besides the rivers already mentioned there are innumerable smaller streams which help to carry off the enormous rainfall characteristic of this part of the province. The water-ways are a most important feature of the district, providing, as they do, almost the only existing means of communication, though, with the exception of the Salween, none of them are of any great size.

Geology. A brief notice of the geology of the district as then constituted was published by Mr. Theobald of the Geological Survey of India in the memoirs of the Geological Survey of India, Volume, X, Part 2. Dr. Oldham divided the rocks of Tenasserim generally into a Lower, or Mergui, series, well developed in the south, and an Upper, or

Moulmein series, largely developed in the Amherst district, of which the massive limestone out-crops form so picturesque a feature. There can be but little doubt that at some remote period these out-crops were sea-girt rocks of similar character to those which stud the Mergui Archipelago. The age of the Moulmein beds was fixed by Dr. Oldham as Palæozoic, and they were provisionally placed in "the lower carboniferous group of European geologists." Evidence from fossils subsequently found in the range known as the Duke of York's Nose confirmed this classification. The Moulmein group of rocks consists (in ascending order) of hard sandstone, grey shaly beds, fine soft sandstone, and the hard thick limestone of the out-crops. The denudation of these Palæozoic beds has been enormous, and to this is to be attributed the isolated appearance of so many of the hills and ranges in the vicinity of Moulmein. As already mentioned, the Dawna range appears to be a plateau of laterite cut up into hills by denudation, and the evidence of volcanic agency is but scanty.

Hot springs exist in numerous parts of the district, always in close proximity to the limestone out-crops. They appear to hold a similar geological position to the hot springs of Great Britain, most of which rise from strata below the coal and thence flow from or through the limestone. The largest and most important of these springs are to be found at Yebu on the right bank of the Ataran, two or three miles below the junction of the Zami and Winyaw. There are some ten of these springs situated in small knolls of firm laterite soil, whence the water bubbles over the sides and is carried away in drains about a foot or two in width for use in the paddy fields (after cooling) and in the onion and cocoanut gardens situated close by. The temperature of the water is about 134° Fahrenheit. Its composition was investigated in 1895 by the Chemical Examiner, Burma, who reported as follows:—

"The solids vary from 266·3 to 275·4 parts per 100,000, rendering the water a mineral spring of the type known as bitter water. The chief constituent is sulphate of lime, forming over 80 per cent. of the total solids. The other constituents are sulphates of magnesium and sodium chloride and silica. Nitrates are almost completely absent. The water has no medicinal value, and its only value as a fertilizer is from the sulphate of lime it contains."

The report as to the springs' medicinal value is of interest as contrasting with the report of Dr. Helfer quoted

in the British Burma Gazetteer. He says :—"Their medical properties would render them excellent remedies in a number of diseases," and the Burmese are described as so using them, but this practice seems to have died out.

An account of the minerals occurring in the district will be found under the heading 'Minerals' in Chapter V.

Botany. The Botany of the district has been but little studied. It is of the usual sub-tropical type met with in the wet areas of Lower Burma, and ranges from the swamp variety near the sea to the evergreen forest type in the mountainous area on the east. There is abundant timber, particulars of which are given in Chapter V. The *dhani*, toddy and cocoanut palms abound, as well as a great variety of fruit trees, which include the doorian and the mangosteen. Orchids are common both in the plains and in the hills. The only peculiarities in the district flora are the flowering shrub Amherstia, which is said to be peculiar to this district and is of considerable beauty, a pine known as "Pinus Merkusii," and what is possibly a previously unknown variety of wild doorian tree found on the Dawnas.

Fauna. The principal members of the cat tribe found in the district are the tiger and the leopard, the former being very numerous in some parts. Elephant, bison, and *tsine* (*bos sondaicus*) are to be found in the more hilly tracts. Wild pig are very numerous, and cause great damage to crops. The rhinoceros is to be found in some parts, but is not common. Of the deer tribe the *gyi*, or barking deer, is very common, and sambhur, brow-antlered deer and hog deer also occur. Monkeys are numerous in the hills. In the Yelamaing township alligators are to be seen in the numerous creeks, and the Malayan tapir is also said to have been found. Of game birds snipe, duck, quail and jungle fowl are the most common. Pigeons, doves, and birds of the crane variety are very numerous. Snakes are not exceptionally plentiful, possibly owing to the annual submergence of so much of the plains of the district. They are, however, by no means absent, and include deadly varieties, such as the cobra and Russel's viper.

Climate. Rainfall. Like the rest of this part of the Tenasserim division, the district shares with Arakan the distinction of being one of the wettest parts of Burma. From the end of November to the end of April or beginning of May there is little or no rain, and, though the heat in March and April is trying owing to the humidity of the climate, the dry weather is on the whole healthy. The wet period is from May to October

when the bulk of the average rainfall 180—200 inches falls. It is by no means uncommon for 7 or 8 inches of rain to fall in the 24 hours, nor for the fall to continue with but trifling intervals for a week or ten days in succession. In the course of a cyclonic storm during May 1908 no less than 22 inches of rain were recorded in 24 hours. In the finer periods of the rainy season the climate is apt to prove trying owing to the sudden changes of temperature caused by heavy chilly rainstorms alternating with hot sunshine. June, July and August are usually the wettest months. The heaviest monthly falls recorded in the last twenty years have been 67·57 inches in July 1894 and 66·13 inches in August 1898. September shows falls of between 17 and 45 inches for the same period, and in October 10 or 12 inches is the normal quantity. Despite the humidity of the climate malarial fever is not prevalent, and on the whole health conditions must be pronounced very fair.

Temperature.

The hilly parts of the district experience quite a low temperature in the winter, as is to be expected from their altitude, but the low lying country along the coast and rivers is hot and has no cold weather. The nights, however, except in April and October, are generally tolerably cool. There is no record indicating the extent of the variations of temperature in the hills, but in the plains, which comprise the bulk of the district, the temperature varies but slightly. The mean maximum and minimum temperatures throughout the year in Moulmein itself are 89 and 73 respectively. The highest average maximum recorded in the last twenty years was 95·98 in April 1900, and the lowest average minimum 59·4 in December 1893, the average minimum in the former month being 76·77 and the average maximum in the latter 84·7. It will be seen therefore that the utmost variation throughout the year does not exceed 37, which may be contrasted with the variation of 60—70 experienced in districts of the dry zone of Upper Burma, such as Thayetmyo. Although the thermometer does not rise to any very sensational figure even in the hot weather, the humidity of the climate renders the heat disproportionately trying, and quite worthy to be compared in effect with the more excessive, but dry, and therefore tolerable, heat of dry zone districts such as Minbu or Mandalay. The climate therefore is not quite so equable as the recorded statistics would appear to indicate, heat and cold being more noticeable when of a damp than when of a dry variety.

CHAPTER II.

HISTORY AND ARCHÆOLOGY.

HISTORY.—Talaing Period, Burmese Period, First Burmese War, Annexation, Second Burmese War, Subsequent history.
ARCHÆOLOGY.—Ancient Towns, Pagodas.

HISTORY. Talaing Period.

The Amherst district has always been one of the main strongholds of the Talaing or Mon race, which still forms the bulk of the population. The Mons came from the north, and went not only to Burma but also to Cambodia, and civilised both countries. Their capital in Tenasserim was Thatôn, founded about 600 B.C., and it was from Thatôn that Talaings went north and founded Hanthawaddy (Pegu) in 573 A.D. For centuries the Amherst district was disputed territory between the Mons and the Siamese; and when Thatôn became merged in the kingdom of Pegu and Anawrata ascended the throne of Pagan in 1010 A.D., the long struggle began between the Mons and the Burmese, the former being thus placed between two fires. It is little to be wondered at that when the British occupation began the country was found to be poverty-stricken and almost depopulated. Thatôn is said to have been completely destroyed by Anawrata, and the country east of the Salween fell into the hands of the Siamese about the same time. At the end of the 13th century the kingdom of Martaban was founded by Wariyu, an ally of Siam, and was shortly afterwards amalgamated with Pegu, whose king Wariyu killed and succeeded. This amalgamated kingdom then absorbed Amherst, Tavoy and Mergui districts to the exclusion of the Siamese, who, however, regained possession in the 17th and early part of the 18th centuries, when the Mons were fully occupied with incessant wars with the Burmese. In 1752 the Mons scored a signal triumph by capturing Ava and carrying off the King of Burma and all his family as prisoners.

Burmese Period.

The retribution which speedily followed at the hands of Alaungpaya resulted in the expulsion of the Siamese from Tenasserim and the invasion of Siam itself. Alaungpaya died in 1760 within two marches of Martaban on his way back from Siam. Both he and his successors endeavoured to extinguish the Talaing nationality by proscribing the language. Its survival in this district to so much greater an extent than elsewhere is to be attributed to the feebleness of the rule of the Burmese governor at Martaban and to the

annexation of the country east of the Salween by the British, which resulted in a large influx of Talaings anxious to escape from Burmese rule. The effective sway of the Martaban *Myowun* never extended further than a few miles south of Moulmein. In 1814, 30,000 Talaings are said to have emigrated from the district into Siam. In 1826, the very year of the annexation, 16,000 of the population were captured by a Shan invasion, roped together by the ears, and marched off to Raheng and Zimme to be sold as slaves.

In 1827, on the other hand, after British rule had been established, 20,000 Talaings immigrated to Amherst under the leadership of one Maung Sat and his second-in-command Maung Ngan after an abortive rising against the Burmese in Rangoon. Half the immigrants settled up in Ataran and half in Wagaru.

First Burmese war. Annexation.

The first Burmese war was formally declared on the 5th of March 1824, and in 1825 Sir Archibald Campbell took Syriam, Tavoy, Mergui and Martaban with practically no opposition. By the treaty of Yandabu, concluded on the 24th of February 1826, Assam, Arakan and the coast of Tenasserim, including the portion of the province of Martaban east of the Salween, were ceded to the British.

The difficulty as to which of the mouths of the Salween was to be taken as the boundary has already been referred to, and was settled by the course taken by the cocoanuts set adrift in the river. Mr. Crawford, who had been sent as Civil Commissioner, selected Kyaikkami, afterwards called Amherst after Lord Amherst the Governor-General, as the site for ~~the~~ capital of the new territory, but in 1827 Sir Archibald Campbell, who had been appointed Chief Commissioner, transferred the headquarters to Moulmein for strategical reasons. The district has none the less continued to derive its name from its original headquarters. The advantage of Moulmein was its situation opposite Martaban, whence gangs of Burmese robbers made organized raids into British territory. No attention being paid to British remonstrances, a force was despatched across the river and Martaban was burnt to the ground, a salutary lesson which did much to put a stop to these raids. Moulmein at this time was nothing but a small fishing village, and as a place of any importance is thus entirely a British creation. So poor and sparsely populated was the country that the question of the advisability of returning it to the King of Burma was seriously debated. In 1826 Mr. Crawford ascended the Ataran in a launch almost as far as the junction of the Zami and Winyaw, but can have seen in the country he traversed

little promise of future prosperity, for even in the British Burma Gazetteer of 1880 the river is still described as "used only by boats, as the country it taps has but a small population and no extensive areas of land under cultivation." Today the same journey as Mr. Crawford undertook is performed daily by launches which pass between fertile paddy lands the whole of the way. In 1826 however the total population of Mergui, Tavoy and Amherst, as far north as the mouth of the Thaungyin, was estimated at only 70,000, or less than a quarter of the population of the modern Amherst district at the census of 1901. It was not until 1831 that it was finally decided to retain possession of the country.

In 1829 Sir Archibald Campbell was succeeded by Mr. Maingy, and the province was placed under the direct control of the Governor of Bengal. Subsequent Commissioners were Blundell, Broadfoote, Durand, Colvin, Bogle, Phayre and Fytche. Conditions immediately after the annexation were anything but satisfactory. The troops in Moulmein were being fed on buffalo beef, salt junk and biscuits; bread cost a rupee for four small loaves; fish and vegetables were scarce; onions, flour and sugar stood at prohibitive prices.

To secure a supply of cattle for the troops and thus diminish the serious drain on the scanty local resources, and to induce Chinese caravans to venture as far as Moulmein, a mission was despatched to the Northern Labaung and Zimme in 1830 and again in 1834. Satisfactory results were obtained as regards the cattle, a thousand of which were secured as the outcome of the first mission alone. Despite frequent further missions, however, it was not until 1847 that the suspicions of the Zimme chiefs were sufficiently dispelled to permit them to allow Chinese caravans to pass through to Moulmein.

Relations with the Burmese Government continued uniformly unsatisfactory, the Salween islands, of which the sovereignty over Bilugyun alone had been finally settled, being a continual source of friction. The harbouring of dacoits in Burmese territory, a dispute over the use of a rope across the Salween to catch drift timber, a wanton attack by the Burmese on a survey party, the erection of stockades and massing of troops at Martaban by King Tharawaddi in 1840, and above all the futile policy of pin-pricks so dear to the Burmese statesman, all in turn rendered the maintenance of friendly relations between the two administrations impossible.

Relations with Siam, which had opened in 1830 with a

deputation from Raheng bearing overtures from the King of Siam, were generally satisfactory. A mission was despatched to Bangkok in 1831, which secured the release of certain kidnapped Talaings. Other missions followed from time to time, and in 1848 it was amicably agreed that the Thaungyin should be our boundary.

The Second Burmese war.

The second Burmese war broke out in April 1852, and on the 5th of the month Martaban was shelled by warships, troops were landed under cover of their fire, and by 8 A.M. Martaban was taken with a loss of seven European rank and file and one havildar. An attempt by the Burmese to recapture it three weeks later was a complete failure. The rest of the military operations were conducted elsewhere, so that the Amherst district had little share in them beyond serving as a base and providing hospitals for the sick and wounded at Amherst The war closed with the proclamation of the annexation of the province of Pegu on January 20th, 1853.

Subsequent history.

In 1862 Tenasserim was joined to Pegu and Arakan to form the province of British Burma. In 1866 the boundaries of this district were enlarged by the addition of the Martaban, Thatôn and Pagat townships, but these were again taken away at the formation of the Thatôn district in 1895. The history of the various internal affairs of the district is dealt with in the appropriate chapters; that of the district as a whole becomes merged from 1862 onwards in the history of the province of British Burma.

ARCHÆOLOGY.

The troublous history of the district before the annexation, and its consequent poverty-stricken and sparsely populated condition sufficiently account for the paucity of remains of considerable antiquity or archæological interest. A thorough exploration of the limestone caves, which, were used as places of refuge by the harrassed Talaings, might possibly produce a few objects of interest.

Ancient towns.

There are scattered remnants of old Talaing towns, but tradition seems to have preserved but little information about them. Such, for example, is the square fosse in the jungle in Payangazu *kwin* on the left bank of the Winyaw. This is said to be the site of an old Talaing fortified town, and is known as Myohaung, but, beyond eliciting that its inhabitants emigrated to Siam, a search for information is only rewarded by the assurance that a father's mother could not remember anything about it. Details are, however, forthcoming about the remains of two earth and stone walls and a moat on the bank of a stream not far from Ye, which are said to have encompassed a large city called Meinma

Myo (Woman City), inhabited exclusively by vestals. Male intruders were beheaded on merely approaching the gates. The head priestess on one occasion emerged from the gates and met such a one, but the 'dah' slipped from her hand as she was in the act of beheading him, whereupon she married him, and all the other vestals followed her example by taking husbands. The town was eventually sacked and destroyed by one Bogale, a man of unknown race, who lived in the Thuthe district adjoining the coast lands on the south-west of the town. He carried off the women and treasure to his own place. The Thuthe district has since been blotted out by the sea, its only relics being old pots and domestic utensils which are sometimes found on the beach. Near the site of the Meinma Myo is a cairn of stones said to mark the spot where male intruders were beheaded.

Many of the caves in the limestone hills are full of images of Gaudama, and in some the walls and roof are highly ornamented with figures, as is the case at Damathat on the bank of the Gyaing about seventeen miles above Moulmein.

Pagodas. The chief objects of antiquarian interest are, as elsewhere in Burma, the pagodas. Bilugyun island alone contains upwards of 60 pagodas, of which the most famous is the Kalaw pagoda, reputed to have been founded by King Asoka (300 B.C.) to enshrine a relic of Gaudama. On the ridge which runs through the town of Moulmein are several pagodas of considerable beauty and antiquity. Of these the principal is the Kyaikthanlan pagoda, which is supposed to contain a hair of Gaudama. The tradition respecting its foundation in the year 237 B.E. is rather characteristic. It is to the effect than an invading Shan or Siamese army and a Peguan army were confronting each other on the east bank of the Salween, and mutually decided that, instead of fighting, they should compete in the erection of two pagodas of certain dimensions. While the Shans or Siamese were preparing the hill and necessary bricks, the Peguans built a sham pagoda of paper and bamboo, which effectually deceived their enemies and induced them to withdraw in accordance with their compact. The present pagoda was erected to celebrate this bloodless victory, its name signifying "The Pagoda of the overthrow of the Siamese". It was repaired in 1831 at a cost of Rs. 1,000, and has recently been regilded. Further south on the same ridge is the Uzina pagoda so called after its restorer, who expended Rs. 6,000 upon it in 1838. Its former name was Kyaikpatan, or "white pagoda", from the colour of the hill on which it

stands. It is said to contain a hair of Gaudama, and tradition places the date of its foundation in the reign of Asoka. On the same hill stand the Pathada, Datke and Kyaikmalaw pagodas, all reputed to contain hairs of Gaudama, and all undoubtedly of considerable antiquity, though little information about them is forthcoming. There is a similar lack of information about the Taungnyo and Nattaung pagodas, which are also reputed to be ancient. Close to the river bank on the north of Moulmein stands the Kyaikpane pagoda, which is said to have been erected 1,000 years ago by the Peguan King Baneseik Saw to commemorate a victory over the Shans and Siamese.

Near Amherst Point on the rocks about three hundred feet from the beach is the Yele pagoda within a hundred feet of which no woman is allowed to approach. The Talaing name of Amherst, *Kyaikkami, i e.*, "the floating pagoda," is said to be derived from it. Near Lamaing village in the Yelamaing township stands the Sandaw pagoda, which is reputed to be as old as the Shwe Dagon in Rangoon. Its annual festival, held in March, is attended by the devout from all over the district.

CHAPTER III.

THE PEOPLE.

POPULATON.—Density. Growth. Distribution. Races—Talaings. General character, Villages, Houses, Clothing Food, Religion, Karens, Burmans, Shans; Taungthus; Tavoyans; Natives of India; Other races.

POPULATION. Density. The population of the district at the last census (1911) was 367,918, giving a density of 51 persons to the square mile. They were distributed as follows:—

Moulmein Township.	Chaungzôn Township.	Kawkareik Township.	Kyaikmaraw and Kya-in Townships.	Mudôn Township.	Kyaikkami Township.	Yelamaing Township.
65,383	49,271	46,902	87,869	59,808	23,105	35,580

Growth. Reference has already been made to the scantiness of the population at the time of the annexation, consequent on the incessant strife between Siam and the kingdom of

Pegu and the large emigration of Talaings to Siam to escape the Burmese rule. After 1826 the population rose very rapidly owing to the influx of Talaings from the neighbouring Burmese territory and to the immigration of natives of India to Moulmein attracted by the newly opened prospects of trade. At a moderate computation some 20,000 persons crossed from Burmese territory into Tenasserim in the first few years, with the result that the food-supply proved inadequate, and rice had to be procured from Ye and Tavoy. Whereas in 1826 the population of the whole of the new Tenasserim provinces was estimated at only 70,000, in 1855 the population of the Amherst district alone was returned as 83,146, which in 1872 had increased to 129,948, and in 1881 to 180,738. The census of 1891 showed a total of 233,539 and that of 1901 300,173, while the latest census shows still further progress.

Distribution. From the earliest times the population, exclusive of that of Moulmein, has been most dense in Bilugyun and the plains north and east of Moulmein. There has been nothing to attract settlers to the hilly parts of the district on the east, where moreover large areas have been constituted forest reserves, so that the bulk of the population is still to be found in the paddy plains in the centre and west of the district. Exact comparisons between the distribution of the population in 1872 and 1911 respectively are hardly practicable owing to alterations in the boundaries of the district, but the main features, with allowance for extension of cultivation and consequent increase of population in the plains, remain substantially the same.

Moulmein itself has not shared proportionately in the general increase of population, and must now be described as in a stationary condition, which is no doubt the result of the rise of Rangoon as a competitor. Its population at the various censuses has been as follows :—

Year of census.	1872.	1881	1891.	1901.	1911.
Population ...	46,472	53,107	55,785	58,446	57,582

Moulmein, however, was but one of 17 towns exhibiting a decrease for the period 1901-11, while at the census of 1901 no fewer than 19 towns showed a decrease for the previous decade. "A slow but continuous transfer of a portion of the indigenous population from the towns to the available uncultivated areas of the province" is considered

by the census officer to be the cause of this phenomenon. The place of the indigenous urban population is filled up by "a complementary invasion of the towns by the members of alien races who are quite prepared to undertake the mechanical and routine occupations of modern industry." The genius of the indigenous peoples is for agriculture, and until the available cultivable areas are largely taken up they will not attempt to compete at urban pursuits. Meanwhile the population of the towns cannot be expected to increase in proportion to the total increase of population. While the district total continues to increase, Moulmein need have little fear for its future.

A considerable number of the indigenous races of the province are represented in the Amherst district. The Talaings are naturally the most numerous, being not only the most ancient, but having been also largely recruited from other parts of Lower Burma when British law and order converted the district into an asylum for the oppressed of their race. Talaing in fact is by far the most widely spoken language in the district, though a large proportion of the people can also talk Burmese. The next most numerous indigenous race is the Karen, both the Sgau and Pwo branches of which are about equally represented. Close after the Karens in point of numbers come the Burmese, while other indigenous races which occur are Taungthus, Shans and Tavoyans. There is also a considerable population of natives of India, especially in Moulmein, and other comparatively important centres, as well as Chinese, Siamese, and of course some Europeans and Eurasians. Races.

The figures of the 1911 census give the district population by races as follows :—

Talaing.	Karen.	Burman.	Shan.	Taungthu.	All other.
164,470	71,183	61,121	13,313	3,188	54,643

The Talaings are found chiefly in the sea-board townships and in Kyaikmaraw. They differ but little in appearance and character from the Burmese, and their language is perhaps the most distinctive feature about them, differing widely, as it does, both in character and idiom from the Burmese. Their skulls are perhaps a trifle less oval and their complexions rather darker than is the case with the majority of Burmans. In character they are very similar, a cheerful, generous, and conservative people, whose Talaings. General character.

conservatism takes its extreme form in indolence and apathy. Their mode of life is very similar to that of the Burman, ear-boring, *shinpyu*, marriage and funeral ceremonies being very much the same. The *pongyi kyaung* too plays the same important part in the education of the juvenile portion of the rural community. Education is practically confined to the male population, as is the case with the Burmese, and an educated woman is proverbially useless. The Talaing women are, as a rule, even more prolific than the Burmese, and ten or twelve children in a family are by no means uncommon. *Pwes* are as popular with the Talaing as with the Burmese, the local troupes of actors being frequently supplemented by more distinguished companies from places as distant as Mandalay. Boxing, bull-fighting and boat-racing are also popular. In fact most of the numerous descriptions which have been written of the Burmese character and mode of life apply equally to the Talaing.

Villages. As elsewhere in Burma, the village tract is the unit of the administration in all its branches, but the village itself differs widely from its counterpart in Upper Burma. The presence of numerous rivers and the low-lying nature of the country, largely inundated in the rainy season, do not lend themselves to the formation of compact, fenced villages such as are to be found in the dry zone. The larger villages are situated along the banks of rivers in the fertile paddy lands, occupying the high ridge which intervenes between the river and the *kwin*. The restricted nature of such village sites frequently leads to overcrowding, and cultivation extends almost up to the posts of the houses furthest from the river. The houses themselves are raised on posts above the ground, the space below forming the happy hunting-ground of children, pariah dogs, pigs, poultry and ducks. Despite these adverse conditions the villages are not conspicuously insanitary, and the chief objection to their crowded nature is the impossibility of preventing a fire in one house from spreading throughout the village, an incident of by no means rare occurrence.

Inland from the rivers, on the higher ground, the village sites are more spacious, and houses are built each in its own compound of from quarter to half an acre. These villages are not fenced, and some are of considerable size and cover a large area. There are in the district 82 villages of from one to two thousand inhabitants and 25 of from two to five thousand. The head of the village tract is, as elsewhere, the *thugyi* and the same policy of splitting up the former

circles and substituting independent village headmen has been followed. This subdivision of charges has not infrequently resulted in the village tract being so small as to yield an entirely inadequate remuneration to the *thugyi*.

Houses

The houses are almost universally raised above the ground on posts; the walls are of bamboo matting, or the leaves of the *in* tree, threaded on bamboo splits and laid after the manner of tiles; the roofs are of *in* leaves, or are thatched with the leaves of the *dhani* palm. These houses of *in* leaves have a very flimsy appearance, and look far less prosperous and substantial than the houses of mat and *thetkè* occupied by the Upper Burman cultivator in a sterile and unprosperous district, whereas their owners are in reality far more well-to-do. Traders and the more wealthy cultivators frequently have timber walled houses roofed with tiles of baked clay made locally or imported from Nyaungbinzeik, near Moulmein. For *kyaungs*, *zayats* and other works of merit timber and tiles or corrugated iron are very largely used, though the pious founder probably contents himself with *in* leaves or *dhani* thatch. Pukka houses are practically confined to the towns. The ordinary village is thus a collection of the most inflammable materials, and invites disaster when the houses are built in too close proximity to each other.

Besides his house in the village, the cultivator of fields situated at any distance has also his field hut, in which he spends the greater part of the cultivating season. This is of similar structure to the houses in the village, and is usually made of *in* leaves, with frequently a hut of similar materials on the ground adjoining it for the accommodation of the cattle. After the harvest the cultivator returns to his village, and lives there until the next ploughing season commences.

Clothing

The ordinary clothing of the Talaing, as of the Burman, consists of a *longyi*, jacket and *gaungbaung*. In the more prosperous parts a silken *putso* for ceremonial and festive occasions is also usually included in the ordinary villager's wardrobe. The *putso* and the *gaungbaung* are of course purchased, and so also are most of the ordinary or second-best garments, especially the jacket. The working clothes on the other hand, in which the cultivator does his work in the field, are usually home-made, being woven by the women of the household. The loom underneath the house is a very common article of domestic furniture. As elsewhere in Burma, silver and gold ornaments are a

common investment for savings, thus rendering it impossible to keep a gold coinage in circulation.

ood. The staple article of food is rice, of the variety grown by the consumer. Thus the *kaukkyi* cultivator eats *kaukkyi* and despises other kinds; the *shangale* cultivator eats *shangale* and prefers it; the hill Karens prefer hill rice and allege that *kaukkyi* gives them fever. The rice is boiled and eaten with dried fish, fried vegetables of various kinds, and other condiments. The dried fish or *ngapi* is frequently made locally, but there are no fisheries of importance in the district and much of it is imported. It has the most nauseous smell, and the unloading of a cargo of *ngapi* in Moulmein port speedily proclaims itself to the town, if the wind be blowing from the river. The numerous fruits which are grown in the district also form an important item in the diet of the people and include doorians, mangosteens, plantains, pineapples, jack fruits, etc. There is also a considerable variety of vegetables, and sweetmeats of various kinds are manufactured from rice and sugar. On the whole therefore there is no lack of variety in the diet of the people, though the foundation is of course always rice.

Religion. The Talaing, like the Burman, is ostensibly a Buddhist, and the *pongyi kyaung* and the pagoda are prominent features of the country side. There are a few Upper Burman *pongyis* in and near Moulmein, but the Talaing *pongyis* who form the bulk of the local monastic class, do not acknowledge the authority of the *Thathanabaing*, and have had no recognized head since the destruction of the Talaing kingdom. This want of organization does not seem to affect them adversely, and they exercise on the whole a similar wholesome influence to that exercised by the *pongyi* of Upper Burma, educating the young in the rudiments of elementary knowledge, and frequently rousing the people to carry out small public works, such as improvements of inter-village communications, which their own indolence would otherwise cause them to leave severely alone.

Apart, however, from the outward and visible signs of Buddhism the Talaing is a whole-hearted *nat* worshipper, and is ever busy propitiating the local or domestic *nat* who supplies the direct personal element so necessary to a popular religion and so conspicuously absent in Buddhism. There are *nats* of the village, *nats* of the family, *nats* of the river and tree, all of which receive attention, but their

cult is not so strong as it used to be, and will no doubt in time pass away.

The Talaing or Pwo Karens are found in the jungle villages of Kawkareik and of the plains of the Gyaing and Haungtharaw, and on both sides of the upper reaches of the Ataran, the Zami and the Winyaw. They are a peaceable people with no very marked characteristics. The American Baptist Mission can claim large numbers of converts among them, and maintains numerous schools, chapels and lay preachers in the villages. Their villages and mode of life are very similar to those of the Talaing, but as one penetrates into the Karen tracts in the interior they become more primitive. Permanent cultivation dwindles to little more than a scratching of the soil by driving herds of buffaloes over it, *taungya* begins to be conspicuous, and agriculture is supplemented by timber cutting, cattle herding for hire, cooly work in the service of the Forest Department and timber firms, and similar occupations. The pagoda and the *kyaung* also cease to be a feature of the landscape, for the Karen is mainly a *nat* worshipper. Karens.

The *Ayaing* Karens are found chiefly in Wagaru and in the north and north-east portions of the Ye valley in the Yelamaing township. They are more rude and primitive than the Talaing Karens. Their religion is exclusively *nat* worship, and some of their customs are peculiar. Courtship, for example, is unattended by any form or ceremony. The suitor goes to his sweetheart's house and creeps into her bed. Whether or no he remains the night there depends on her acceptance or refusal of his suit. Marriage takes place when the girl becomes pregnant. They bury their dead, but a year after burial the bones are dug up, placed in a small coffin, and, to the accompaniment of much music and revelry, taken to the burial-ground and hung on a tree, where they are left.

The Burmans are most numerous in Amherst and in Moulmein, but are also distributed indiscriminately throughout the district, here a village and there a village. Their occupations are largely petty trading, paddy brokerage, and salt manufacture. Of their national characteristics nothing need be said, as they resemble those of their race in other parts of the country. Burmans

The Shans are found chiefly in and near Kawkareik, but there are also isolated colonies of them on the Ataran, some of whom, however, have forgotten their mother tongue, as is the case at Ngabyema. There is a village of so-called Shan Talaings in Panôn circle on the left bank of the Ataran, Shans.

but these are probably really Talaings who fled from the Burmese into Siam and have returned. They regard themselves, however, as quite separate from both the Talaings and the Karens, each of which races has also a separate quarter in the same village, Kyunshantalaing.

Taungthus. Taungthus are numerous in Kawkareik and its neighbourhood, where they live in compact villages on rising ground. They regard themselves as superior to their Karen neighbours, with whom they share the distinction of being reputed hard drinkers. They are reported to have been in olden days a savage and cruel race, and to have opposed the introduction of Buddhism. For many years after the annexation they maintained their reputation for turbulence, and were very addicted to dacoity. The extension of cultivation however, has tamed them, and they are now a peaceful people, less intelligent than a Burman, and more obstinate.

Tavoyans. There is a sprinkling of Tavoyans engaged in miscellaneous occupations in Yelamaing township. They are regarded with some suspicion as bad characters by their neighbours, but not many of them are permanent residents in the district.

Natives of India. Immigrants from India and their descendants born in the country are very numerous. The bulk of them live in the towns. Out of a total of 42,257 persons, 25,291 are resident in Moulmein, and the bulk of the remainder in Amherst and Kawkareik. They are also, however, to be found scattered all over the district, even in remote villages. There are two old-established settlements of Mahomedan Chittagonians in the Nyaungbinzeik and Thitharo circles respectively. These men are mainly engaged in agriculture and milk selling, and are said to be descendants of convicts—a reminiscence of the days when Amherst was utilized as a penal settlement. Natives of India met with in jungle villages are usually petty shopkeepers (and of course money-lenders), pedlars, or herdsmen. There is also a large floating population of coolies, *sampan* men, etc., which hails mainly from Chittagong. Native Christians are numerous in Moulmein, the total for the district amounting to 5,257. The Native Christian school Mizpah Hall, the Roman Catholic Church and the Anglican Mission minister to their needs.

Other races. Chinamen also are numerous, and, though the bulk of their total population of 5,603 lives in Moulmein, they are to be found in most large villages as liquor licensees, shopkeepers or gardeners. They bear a good reputation as neighbours among the indigenous races, except as regards

opium, and contrast favourably in this respect with the native of India, who is, not without reason, regarded as quarrelsome and litigious.

There is a large Eurasian population in Moulmein town, chiefly engaged in clerical work, business or the professions and the trade of the town also attracts a certain number of Europeans. At the census of 1911 the number of Christians of European or allied races in the district was 350, and the number of Eurasian Christians was 1,217.

CHAPTER IV.

AGRICULTURE AND IRRIGATION.

AGRICULTURE.—General Features. Crops. Rice; *Lè*. Mode of cultivation. Varieties of paddy. Adulteration. *Mayin*. *Taungya*. Gardens. Doorians. Oranges. Mangosteens. Betelnut. *Dhani*. Other fruits. Sugarcane; Cotton. Rubber. Pests. Extension of cultivation. Land tenure.—Tenants. Indebtedness. Agricultural stock. Mortality. IRRIGATION. Protection and drainage works.

The area of the district under cultivation in 1826 was extremely small for reasons already referred to in Chapter II. With the establishment of law and order, large areas became available for cultivation by an ever-increasing population. Progress has been so rapid and continuous of late years that now practically all land suitable for the cultivation of rice, the staple crop of the country, may be said to have been brought under tillage. Large areas of waste land however remain, which, as communications improve and scientific agricultural knowledge spreads among the masses, may be expected to be gradually opened out to the cultivation of other crops, such as cotton, rubber and garden products. Although in the early years of British Administration agriculture did not flourish as might have been desired, by 1880-81, 241 square miles had been brought under tillage. This had risen to 286 square miles by 1890-91. The most marked increase has taken place in the last twenty years, and the total area under cultivation in 1910-11 was 824 square miles, distributed by townships as follows:— AGRICULTURE. General features.

Moulmein.	Kawkareik.	Kaikmaraw and Kya-in.	Chaungzôn.	Mudon.	Kyaikkami.	Yelamaing.
19	113	252	125	162	52	101

Crops—Rice.

Rice is by far the most important crop cultivated in the district, about nine-tenths of the occupied area being devoted to it. It is grown by three main methods, *viz.* (1) the ordinary permanent paddy cultivation of the plains (*lè*), (2) the utilizing of submerged lands as they dry up for the production of hot weather rice (*mayin*), the supply of water being controlled by irrigation works of an elementary kind, (3) the practice of annual *taungya* cutting, which is most extensive in the hills, but is also found side by side with permanent cultivation in the higher and less fertile parts of the plains.

Lè.

Lè cultivation is much the most important of these methods, and is the chief source of supply of the Moulmein rice market. It is carried on chiefly in the Bilugyun island, in the plains of the Gyaing, Haungtharaw and Ataran rivers, in the narrow strip of land between the Taungnyo range and the sea, and in the valley of the Ye river. All these localities include wide areas of fertile land most suitable for paddy cultivation, but it is to be feared that the fertility of some of the older lands is not what it was and is being progressively diminished by the "rob-the-soil" form of cultivation universal among the indigenous races.

The statistics given in a report of Mr. Maingy in 1833 show an average yield of 50—60 modern nine-gallon baskets per acre The report on the settlement operations of *1867-68 deplores the decreased fertility of the soil. "Everywhere," it says, "the cry was 'our land has grown old.'"* The settlement operations of 1911-12 have conclusively shown a decrease of fertility in the Gyaing riverine tract since the previous settlement of 1895-96, and now none but the best lands yield an outturn of more than 40 baskets per acre. The settlement operations of 1906-07 showed a similar deterioration in parts of the Amherst subdivision. But for the exceptionally favourable position of the lands, inundated and enriched by the silt of a vast network of waterways, the process of deterioration would have been far more rapid. Nothing but the spread of industry and knowledge among the indigenous cultivators can avail to stop the process. Custom and apathy, however, are difficult to break down, and even the occasional example of natives of India producing good crops from indifferent land by utilizing the farmyard manure, which the indigenous cultivator will not take the trouble to collect, fails to produce any effect.

Mode of cultivation.

In the more fertile lands ploughing and harrowing are the rule. In the best, transplanting is common, as it gives a better return for the extra labour and expense involved.

On other lands transplanting is widely used to patch up the ravages made by the floods in the crop first sown. On the higher lands along the upper reaches of the rivers and in parts of Yelamaing township frequently the only preparation the soil receives is the treading of a herd of buffaloes or cattle driven round and round in the flooded fields, after which the seed is sown broadcast. This primitive mode survives because of the want of depth of soil and the shortness of the period during which the necessary flood water can be relied upon to remain, which does not permit of lengthy operations. In many localities, however, it must be chiefly attributed to the indolence of the cultivator, especially if he be a Karen.

The bulk of the *lè* cultivation may be said to depend rather upon inundation than upon direct rainfall, the latter being chiefly important as affecting the extent and duration of the inundation. The whole system is one of following the water as it falls. Too heavy early rains mean delay in the preparation of the soil and the sowing of the seed. Excessive floods after sowing involve the drowning of the young plants. Failure of the late rains causes a premature retreat of the flood from the higher lands and consequent disaster to the crops thereon. Thus normally the lower the land, the more fertile it is. It retains the water longer and receives more silt. This is of course subject to the qualification that the land is not too deeply inundated. In years of heavy flood hundreds of acres bear no crop, either because none could be sown, or because the crop sown has been drowned out. In Wagaru and Yelamaing inroads of salt water do much damage to the paddy on the coast lands. The crop, when harvested, is sold to brokers who travel the district on behalf of the Moulmein rice-milling firms, and the bulk of it eventually finds its way by boat to the Moulmein market.

Varieties of paddy.

Most of the paddy which comes into Moulmein is of the slowly maturing variety known as *kaukkyi*, which is the product of the lower and better lands. The best grain produced in the district is the *sein-she-gyi* and *sein-she-gale* paddy of Bilugyun and the Mudôn plain. The principal variety grown in the Gyaing-Ataran area is that known as *byat*, while the paddy of the Kawkareik plain is a red *kaukkyi*. In Yelamaing the principal kinds of *kaukkyi* are *lawthaw* and *ngasein*. The lowest and most deeply flooded lands produce a coarse paddy known as *tadaungbo*, which has the faculty of accommodating itself to the depth of the water. This grain is a recent

importation, and was at first hailed with delight owing to its flood resisting qualities and large initial outturn of about 50 baskets per acre. Experience has shown, however, that it exhausts the soil very rapidly, and the outturn of 50 baskets in very few years drops to 15 or even less. Much land originally brought under this crop has now been abandoned. On the higher lands *shangale* is the variety of paddy usually grown. It is more quickly maturing than *kaukkyi*, and therefore suitable for lands on which the inundation lasts too short a time for the successful cultivation of *kaukkyi*. *Shwethwe* is grown on lands subject to flooding by salt water, by which it is less affected than other varieties *Pataing*, *ipataing* and *ikare* are the varieties commonly grown by the Karens *Kaukhnyin*, both red and white, is also grown.

Adulteration. Until three or four years ago the best Moulmein rice had a high reputation in Europe, which is now unfortunately being imperilled by adulteration. Inferior Rangoon rice is mixed with the Bilugyun grain, an operation greatly facilitated by the opening of the railway, and *shangale* is frequently adulterated with *tadaungbo*. The offenders appear to be the brokers and middlemen, and not the cultivators, the practice being encouraged by the high price of paddy and the ceaseless speculation which is a feature of the rice market. The remedy would appear to be for the millers to do away altogether with the middlemen and deal direct with the cultivators.

Mayin. *Mayin* cultivation is practised on low-lying lands, in the beds of streams and swamps, where the water remains after the general flood has subsided. Areas for *mayin* are frequently made by damming up streams, and these are the best for the purpose, as by simple irrigation contrivances the water can be kept at the required level with a minimum of labour. Where *mayin* is cultivated in what may be described as residue water, the nurseries are formed on the higher ground as soon as the flood is sufficiently shallow. By the time the plants are ready for transplanting the water on the lower land has subsided sufficiently to admit of planting out, and the supply is maintained while the crop matures by baling by hand from the main pool. The yield is generally good, from 30 to 50 baskets per acre, but the paddy is of inferior quality to that harvested at the end of the year, being of the quickly maturing varieties, and is only grown for local consumption. The area under *mayin* paddy is very inconsiderable, but it tends to increase whenever the main paddy crop has been below normal, and this

mode of cultivation is a useful resource to tide a cultivator whose crop has failed over the interval before the next season commences.

Taungya cultivation is carried on chiefly in the hills in the eastern part of the district, and is the normal mode of agriculture of the hill Karens. The rice produced is of a ruddy colour, of inferior quality, and of no use for milling purposes. It is grown purely as a food supply for the cultivator. The chief varieties grown in Yelamaing township are *mibyu*, which was introduced from Tavoy and is akin to *shangale* in appearance, and *sawkamaw*. The Karens of Kya-in township grow *ikaraing*, a very glutinous grain. This form of cultivation also occurs in the higher lands of the plains, but is not popular, despite the fact that its yield is greater than that of the lowest grade of permanent paddy land, on account of the labour involved, which includes the clearing of the land and the burning of the jungle upon it for the sake of a single season's crop, which exhausts the soil. It is resorted to chiefly by cultivators who have lost their plough cattle. *Taungya.*

The fruit trade of the district is of considerable importance. Over 47 square miles are under garden cultivation, and the value of the fruit and vegetables exported from Moulmein by sea in 1910-11 exceeded 4½ lakhs. A great variety of fruits are grown. These include doorians, oranges, mangosteens, betel-nut, cocoanut, plantains, betel leaf and jackfruit as well as various kinds of vegetables. The produce is brought to the central market in Moulmein by boat in the same way as paddy, and is purchased there by brokers. **Gardens.**

The district is especially well known for its doorians, which are grown in Bilugyun, Wagaru, Ye, the Gyaing-Ataran plain and Kawkareik. The trees begin to bear in eight or ten years and go on fruiting for about thirty years. They are usually watered during the hot season, and are manured, when planted in gardens, but those on hill-sides are left to fend for themselves. The fruit is much esteemed and has a very original flavour, but the average European finds its enjoyment seriously marred by its smell, which is particularly nauseous. The unsophisticated traveller visiting Moulmein in the doorian season would at once on the evidence of his nose conclude that the drains of the town were sadly neglected. A doorian tree will yield about 40 fruits in a season, and these sell at the rate of Rs. 15 per hundred. **Doorians.**

Oranges are grown in the Gyaing-Ataran area, in **Oranges**

Wagaru and in Bilugyun. They are not indigenous, and their cultivation is said to have begun in the Migalon circle of the Gyaing-Ataran plain from seed procured from Bangkôk. The young plants from the nursery are placed in rows about eighteen inches apart, and at five years old are again transplanted and put out at a density of three or four hundred trees to the acre. They are frequently shaded by surrounding plantain trees. They require watering and manuring with discretion, and the land has to be carefully weeded. The trees flower and fruit at twelve years of age, and live about forty or fifty years on level ground, but about thirty-five years on high ground.

Mangosteens.

Mangosteens are cultivated for the most part in Bilugyun, and are said to have been introduced from Penang. They are grown in a similar manner to the doorian, and frequently side by side with it. The tree commences to bear fruit ten years after being planted, and continues to do so for fifty or sixty years. It yields about 400 fruits in a season, the sale price being Rs. 2 per hundred.

Betel-nut.

The betel-nut palm is widely cultivated, being most common in the neighbourhood of Moulmein, the Gyaing and Ataran, and Ye. In 1911 the area under betel-nut was returned as 4,023 acres. The tree thrives best near the sea coast. It ordinarily requires watering for three or four years after planting, but later requires no attention. Each tree bears about 160 fruits, which sell at the rate of Rs. 15 per thousand.

Dhani.

The *dhani* palm is common on the banks of creeks in Bilugyun, Wagaru and Yelamaing. The area under it in 1911 was 9,386 acres. The manufacture of thatch from the leaves of this palm is a comparatively large industry in the Yelamaing township. Sugar and toddy are made from the juice of the tree, but only on a small scale.

Other fruits.

Gardens containing such products as betel-leaf, cocoanut, plantains, jack-fruit and vegetables are common in various parts of the district, the last named more especially on the islands and banks of rivers. They are none of them particularly characteristic of this district, and require no special description, though possibly the onion and cocoanut gardens of Yebu on the Ataran deserve mention on account of their proximity to the hot springs referred to in Chapter I.

The cocoanuts are situated on the high ground round the springs, the hot water being four to five feet below the surface. The onions are cultivated on the low ground, and are watered from the springs by means of drains. When the crop of onions has been gathered in February, the land

is utilised for growing chillies, tobacco, maize and vegetables.

Sugar-cane. In 1911, 963 acres were under sugarcane, of which two varieties are grown, *kyaukgaung* and *kaingkyan*. The former is cultivated chiefly on islands in the Gyaing, and is eaten as a sweetmeat. The cultivation of the latter is similar to that of *taungya* rice, except that the land can be utilised for three years instead of only one, the second year being the most productive. It is found near Kawkareik, in the jungle of the Gyaing-Ataran plain, in Wagaru and in the south of Yelamaing township. The sugar is extracted by the cultivator with his own apparatus.

In 1842 an attempt was made by a Mr. O'Riley to develop a trade in sugar, and he established a factory at Amherst and succeeded in persuading Government to prohibit the import of foreign sugar. The merchants of Moulmein protested and the embargo was removed in 1844, only to be reimposed two years later. It was finally abolished in 1848, when Mr. O'Riley's factory had been closed down. At the present time the cultivation of the cane and extraction of sugar is purely a jungle industry.

Cotton. Experimental cultivation of cotton followed very closely upon the annexation, for in 1834 Mr. Blundell introduced Pernambuco cotton. The cultivators, however, did not take to it, and nothing was achieved beyond demonstrating that Pernambuco cotton could be grown in the district. It was not until very recent years that attention again came to be paid to this form of agriculture, and of the thirteen leases or grants for cotton cultivation now extant in the district the oldest dates back only to 1907. The largest cotton estates in the district are those of the Karen Planting and Trading Company of nearly 2,000 acres, and of Messrs. Garrood & Platt of between three and four hundred acres, both situated in the Natchaung circle of the Kya-in township. The varieties chiefly grown are Pernambuco and Caravonica, but the Karen Trading Company is also experimenting with Sea Island and other kinds. If these enterprises are successful, it may well be that cotton will in the future figure as one of the important exports of Moulmein, but at present the ordinary small cultivator's methods are very casual and not likely to command success. The value of the cotton grown in the district is nine pence a lb. in Liverpool.

Rubber. The possibilities of the district for the cultivation of rubber have not been overlooked, and there can be no doubt that large areas are suitable for this valuable crop,

though the utility of much of them is sadly marred by the lack of communications. Since 1899 thirty-nine grants or leases for rubber plantations have issued, covering a total area of nearly 7,400 acres. The largest plantations are those of the Amherst Rubber Estate, Limited, of nearly 1,600 acres in the Hnigaing circle of Kyaikkami township; those of the Moulmein Rubber Plantation Company, Limited, of about 1,900 acres in the Panga and Hnigaing circles of the same township; those of Mr. F. H. Armstrong of about 2,300 acres in the Pathein circle of the Kya-in township, and those of Mr. J. M. Law of about 300 acres in the Mudon circle of the Mudon township. It is of course impossible to foretell the future of this form of agriculture, which is still in its infancy, and the future of which depends so largely on exterior and world-wide factors. It seems highly probable, however, that rubber may become one of the most important products of the district.

Pests. The chief insects which attack the rice crop are those known as the *gokpo*, the *ywetsapo* and the *ushaukpo*, which generally make their appearance towards the end of the rains. They are worst in the Yelamaing township, where they appear annually, but the Ataran plain also suffers considerably from them. The coast lands frequently suffer from inundation of salt water, and also from the ravages of small crabs, which come early in the rains and nibble the young paddy plants just as they are sprouting. Wild pig and small deer do great damage to crops situated near jungle, and all sorts of devices, such as fencing, fires, bamboo or tin clappers and shouting are employed, more or less unsuccessfully, to drive them away. In areas near jungle the noise of clappers and the shouting of the sentinels continues at intervals throughout each night until the crop is safely harvested, but in time the animals get so accustomed to these noises that they take but little notice of them.

Extension of cultivation. Reference has already been made to the rapidity with which cultivation has extended in recent years, and to the fact that almost all the land available for the staple crop has now been taken up. The circumstances of this recent extension were such as to render it probable that some proportion of the present occupied area will lapse into waste again. As the result of a bumper crop in 1903 and the rise in the price of paddy a land boom ensued between the years 1903 and 1905. The fever of speculation seized all classes, and many non-agriculturists succeeded in obtaining grants, despite the appointment of special *Myoôks* to deal with applications. The number of applications which had to be

dealt with may be inferred from the following figures of grants for paddy cultivation issued in the district between 1903 and 1908. In the latter year further grants were suspended by the orders of the Financial Commissioner.

Year ...	1902-03.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.
Total acreage of grants issued.	6,540	29,164	23,878	12,968	5,646	2,882

Much of the land taken up was unculturable, and was applied for only in the hope that improvements by neighbouring cultivators would eventually make it worth something. Chetties were badly hit by advancing money on mortgages on such land without sufficient inquiry as to their real worth. In one *kwin* in Nyaungbinzeik circle alone they are said to have lost Rs. 30,000. It is noticeable that the figures for the past three years show an increase of only 3,000 acres in the occupied area, and much of this is due to the extension of *taungya* cultivation and the development of rubber estates. The introduction of *tadaungbo* led to the cultivation of a large area which is rapidly being abandoned owing to the failure of this crop to fulfil expectations. Extension of supplementary survey in 1907 and 1909 have brought large areas under settlement, and swelled the figures of occupied area out of all proportion to the actual extension of cultivation. One hundred and eleven *kwins* in Kawkareik and 164 in Kyaikmaraw have been surveyed, representing 37,270 and 40,419 acres respectively, much of which has been a considerable time under cultivation. Immigration from Tavoy and Bilugyun into Yelamaing and Amherst townships respectively has led to further revision of survey and correction of area statements. Increases of paddy cultivation thus tend to become rather statistical than actual, and genuine future extension is to be expected rather in rubber and cotton and minor forms of cultivation than in the staple crop of the district.

Land Tenure.

The land is for the most part in the hands of peasant proprietors who work holdings of from ten to twenty acres. Larger land-owners are more numerous in the vicinity of Moulmein than in more remote portions of the district. In the area of 467 square miles in Chaungzon, Kyaikkami and Moulmein townships re-settled in 1906-07, 52 holdings of over 100 acres were found, whereas in the 1,279 square miles which constitute the remainder of the settled area of the

district there are only 31 such holdings. In the latter area, out of a total of 20,060 holdings no fewer than 18,699 are of less than thirty acres. Generally speaking, the better the land the smaller the area of the holding, and in the fertile region re-settled in 1906-07 the average size of the holding is between fifteen and sixteen acres. Only a very small percentage of the occupied area is in the hands of non-agriculturists, and these are generally chetties who have been left with unsaleable land as the sole security for a bad debt, or money-lenders who are only waiting their time to realise on the land and meanwhile let it to tenants. No doubt the Talaing custom of partition among co-heirs has much to do with keeping holdings small, though it is also responsible for a certain amount of debt incurred for the purpose of buying out co-heirs.

Tenants. As is natural in a land of small proprietors, no regular tenant class exists. Rents are customary rather than competitive, and are usually paid in kind. Such rise in rents as is perceptible since the original settlement is attributable to the rise in the price of paddy, and real rents show little tendency to rise. Tenants rarely work the same land for more than one year, and the permanent rack-rented tenant is an unknown phenomenon. In the case of the fixed produce tenancies one-fourth to one-third of the gross produce is the usual rent, and in the case of share produce tenancies one-tenth. In both cases it is usual for the landlord to grant a large remission in the event of crop failure due to flood or other unavoidable calamity. In the event of anything approaching total failure the tenant is usually only required to pay the land revenue. A peculiar form of tenancy also occurs in which the rent is paid in cash in advance for a term of years, no remissions being granted, as the rent is about fifteen per cent. lower than in other forms of tenancy in consideration of the tenant taking all risk of crop failures.

Indebtedness. In the Chaungzon, Kyaikkami, Mudon and Moulmein townships 29·4 per cent. of the cultivators examined during the settlement operations of 1906 07 were found to be in debt. During the settlement of 1911-12 the corresponding percentage in the Yelamaing, Kawkareik, Kyaikmaraw and Kya-in townships was found to be 17·9. The greater facility for running into debt afforded by the proximity of towns no doubt accounts for some of the difference in the figures for the two areas. In both cases, however, 82 per cent. of the total debt was found to have been incurred for reproductive purposes. This percentage must not be too implicitly relied upon, as the cultivator borrowing for the

purchase of land, seed or cattle frequently borrows a sum in excess of his requirements so as to allow a substantial margin for a *pwe* or other unproductive expenditure. Nevertheless, with all due allowance for the human frailties of the indigenous cultivator, the statistics represent a satisfactory state of affairs, and the district may be pronounced free from serious debt. Money for agricultural purposes is usually borrowed from Burman money-lenders, the chetties having ceased to finance cultivators since the land boom of 1903—1905. Interest varies from 24 to 36 per cent. per annum, the former being only obtainable on large sums covered by adequate security. There is a form of petty, temporary debt which is very prevalent in the district after a year of indifferent crops. A bag of rice, value about Rs. 14, is borrowed from the village shop-keeper, usually an Indian or Chinaman, to be repaid by 20 baskets of paddy, or more according to the value of the bag, at the next harvest. These loans are usually taken in the rains when the insufficient previous season's crop has been consumed, and are thus usually for a period of six months or less. The interest on these loans works out at anything from 84 per cent. per annum upwards. Two bad years in succession being, however, almost unknown, and repayment being due at the most convenient time for the debtor to pay, these loans are usually repaid within the year, and cause little inconvenience despite the enormous rate of interest charged.

Increased advantage has been taken of the Agriculturists' Loans Act in recent years, the average annual advances for the years 1907-08 to 1910-11 amounting to Rs. 25,479 as compared with Rs. 2,375 for the previous four years. The Land Improvements Loan Act, however, is not much utilised. There are no registered Co-operative Credit Societies in the district. An interesting attempt to start two Co-operative Credit Societies for the purpose of facilitating *tadaungbo* cultivation was made by some Karens near Kyondo. One society failed owing to a supervising elder emigrating with most of the capital; the other is moribund owing to the failure of *tadaungbo* cultivation to realise the expectations formed of it. It seems probable that under proper supervision the co-operative movement would do well among the Karens.

Agricultural stock.

The number of agricultural stock in the district in 1910-11 was returned as 99,336 cattle and 54,341 buffaloes, figures which represent a fair average for the last twenty years. The number of agriculturists to utilise them was returned at the last census (1911) as 258,280. In 1855-56

there were only 5,297 cattle and 36,501 buffaloes in the district as then constituted. In his settlement report of 1868 Captain Horace Browne commented on the fact that cattle were gradually being substituted for buffaloes, as has every subsequent Settlement Officer. At the present time instead of there being nearly seven times as many buffaloes as cattle there are nearly twice as many cattle as buffaloes, and the process of substitution still continues. The reason for it undoubtedly is that the buffalo is more prone to disease than the bullock, far more difficult to cure of even the smallest ailment, not adapted for work other than agricultural except timber hauling, cannot work as long hours as the bullock, and does not last as long. In the remoter parts many buffaloes do nothing except the kneading of the soil which serves the jungle cultivator for ploughing. Both cattle and buffaloes are bred in the district, but large numbers are also imported, the former from the Shan States, the latter from Tavoy. There is ample grazing for agricultural stock. Grass is always procurable, and it is almost entirely upon grass that the average village animal supports life. In the more densely populated parts of the district ample grazing grounds have been reserved for the use of village cattle. Although most villagers graze their own cattle in the local jungle or grazing ground, many of those living between the Taungnyo range and the sea send their cattle over to villages on the east of the hills to be grazed in the dry season, at a fee of from eight annas to one rupee per head per month. The system is not free from objection owing to its tendency to spread epidemic disease, about which as about the general care of their stock the people are lamentably casual, with the result that cattle disease is, and always has been, perennial in the district.

for-
ality.

It is on record that in 1836 an epidemic destroyed 12,000 buffaloes in Tenasserim, a large proportion of which no doubt belonged to Amherst district. In 1876 between January 1st and August 30th no fewer than 12,562 head, comprising 11,290 buffaloes and 1,272 cattle, died of disease within the district as then constituted. There has been no recurrence of such an outbreak as that of 1876, and the rules for the report of outbreak of disease and for the segregation of diseased stock have undoubtedly done much to improve matters. The evil has, however, been by no means eradicated. In 1908 and 1909 7,400 head died in Yelamaing township, and in 1910 some 2,500 head in the Tagundaing circle of Kya-in township. Much of the disease is probably imported from the Shan States by the droves of cattle which

come down from there, defiling grazing grounds and watering places *en-route*, just when the local cattle are at their weakest after the labours and exposure of the wet season. The chief diseases are foot-and-mouth disease and a kind of dysentery, which is believed to be a form of rinderpest. From the latter buffaloes never recover, although cattle occasionally do.

Irrigation. The general system of cultivation of the staple crop of the district has already been described as a following of the flood water as it falls. It will therefore be readily understood that in view of the inundation of the country and the volume of the rainfall no irrigation works in the larger sense of the term are required for the cultivation of nine-tenths of the agricultural produce of the district. The total irrigated area for 1910-11 was only 6,059 acres. Such irrigation works as exist are all of a private and petty nature, *mayin* paddy commonly requires some form of irrigation, as already explained, either by the damming of a stream or by the lifting of water by hand from pools and ponds by means of a scoop. Vegetable and betel-vine gardens are commonly watered in the same way, but at Yebu the hot springs serve the purpose of irrigation, not only for vegetables, but also for paddy in the higher parts of the adjoining *kwin*, where it is utilised to supplement the flood water in fields which dry up too quickly to allow of the paddy maturing properly. All these, however, are irrigation works on the very smallest scale.

Protection and Drainage works. Far the more important works are those designed to keep out, or carry off, the surplus water, *i.e.*, defence and drainage works. With many cultivators the expense of maintaining a low embankment round the parts of their holding most exposed to the flood is a normal item in the cost of cultivation. But for the apathy and indolence characteristic of the indigenous races there would be far more of these *thamans*, as they are called. In parts of Yelamaing township a cultivator erecting a *thaman* which benefits not only his own holding but possibly hundreds of acres belonging to his neighbours expects and receives no aid of any kind from them in maintaining it. If he does not keep it up, none of them will attempt to do so, and they will see their lands become almost unculturable rather than assist. Fortunately this attitude is not universal. A useful embankment running along the left bank of the Haungtharaw for eight miles between Migalon circle and Kanni villages and protecting the whole Migalon circle from flood, was constructed by cultivators with aid from the District

Fund. Its maintenance is now undertaken by the District Fund.

In numerous other cases the cultivator finds it necessary to maintain drainage channels to carry off the surplus water. The only public work of this kind is a canal in Pabyauk circle in the Gyaing-Ataran plain. It was designed to drain the lands flooded by the Pabyauk and Gyaing rivers, but has not proved so successful as was hoped. Of 2,417 acres potentially culturable only 1,254 have been actually rendered capable of bearing a crop.

CHAPTER V.

FORESTS AND MINERALS.

FORESTS.—History, 1827-1828; 1829—1840; 1841—1863; Timber trade. Modern Forest Administration. Thaungyin Division—Nature of forest growth, Principal timber species, Reserves. Ataran Division—Nature of forest growth, Principal timber species, Reserves. Kado and Agency Division. Exploitation. Revenue.

MINERALS.—Miscellaneous. Salt.

FORESTS. History. The history of the forests of the district is of considerable interest, for it was upon teak that the fortunes of Moulmein were at first founded before the country had been opened up to the cultivation of rice. At the annexation the district was found to possess vast forests in the catchment areas of the Thaungyin, Mepale, Haungtharaw and Ataran rivers, containing teak and other valuable timbers. "The Tenasserim provinces are an almost uninterrupted immense forest from the water's edge to the most elevated mountain ridge," wrote Dr. Helfer in 1838.

1827—1828. Strict reservation was strongly advocated by Dr. Wallich, Superintendent of the Calcutta Botanical Gardens, who was deputed in 1827 to report on the forests, and who was impressed by the wasteful manner in which the timber was being extracted. Accordingly for two years Government worked the forests as a monopoly, but there was no local market, the timber had to be sent to Calcutta for sale, and the result was that operations were conducted at a loss.

1829—1840. In 1829 therefore Government threw the forests open to private enterprise, and granted licenses for the felling of timber of not less than four feet in girth on payment

of a fifteen per cent *ad valorem* tax, payable either in cash or kind. No penalties were attached to breaches of the conditions of these licenses, and the result was as might have been foreseen. Mr. Maingy had reported that the forests were practically inexhaustible, so that a headman and eight or ten coolies, appointed in 1833, were considered a sufficient staff to plant and rear teak seedlings and also to check abuses by the licensees. The lack of a survey caused the greatest confusion over licensees' boundaries, which were constantly being violated by rivals. The method of extraction of the timber was wasteful in the extreme, trees being felled in the green, and when of too large a size to be handled by the limited means at the disposal of licensees of small capital, being deliberately cut up into shorter logs, to the great depreciation of their value. Felling was conducted with a complete absence of care and reckless of the damage which might ensue to other trees.

In 1837 Mr. Blundell reported that the rules instituted in 1829 were rapidly becoming unworkable, and Dr. Helfer having been deputed to examine the forests reported that they were being rapidly denuded altogether under the system in force. This was confirmed by a further report by Captain Halsted of H.M.S. "Childers."

In 1841, therefore, Captain Tremenheere, Executive Engineer, Moulmein, was appointed Superintendent of Forests in addition to his other duties, and was provided with a moderate establishment wherewith to carry out a survey, superintend the teak forests, and act as Government agent for the supply of timber for Government shipping purposes. A new set of rules was drawn up providing for resumption of licenses, issue of twenty-year leases, increase of girth of trees to be felled to six feet, and the planting of five young trees for every one felled. These rules were modified in 1842, and fines and other penalties for breaches of their provisions were substituted for resumption. Numerous other alterations followed in bewildering succession. Payments at this time were being taken in kind, a most unsatisfactory method, which gave rise to strong suspicions of private trading by the staff and caused considerable loss to Government owing to depreciation of the timber in store. The system was abolished in 1846, and when in the following year 5,000 logs stored at Ngante came to be disposed of, twenty-five per cent. had to be condemned as useless. 1841—1863.

The timber station at Kado was established in 1846, but the insufficiency of its staff led to endless delays. An experimental nursery established on the Ataran in 1842 had

proved a failure, which was hardly surprising in view of the fact that until 1854 the Superintendents of Forests were all officers with no training or practical experience in forestry. One of them in 1848 propounded the theory that only the seeds of old and decadent teak were capable of germinating successfully. A qualified Conservator was appointed in 1854 on the recommendation of Dr. Falconer, Superintendent of the Calcutta Botanical Gardens. The present era of forest administration began in 1863, when the forests of Tenasserim, till then under the civil authorities, were transferred to the Forest Department.

Timber Trade.

Wasteful and unscientific as the administration of the forests had been, they none the less played a predominant part in raising Moulmein from the status of a fishing village to that of a flourishing town. The first saw-mill was established in 1833. In 1836 the timber revenue amounted to Rs. 20,804, which had risen in 1846 to Rs. 88,869, and in 1856 to Rs. 2,06,359. Ship-building began as early as 1830, when the "Devil," a 51-ton schooner, was built. Between that year and 1856, 123 ships were launched. The largest was the "Cospatrick," of 1,418 tons, launched in 1856, and subsequently burnt on a voyage from England to Australia. The next largest was the steamer "Malacca," of 1,300 tons, launched in 1853. In that year ten ships of a total gross tonnage of 4,527 tons were built, but this marked the zenith of the ship-building industry, which from that time steadily declined, till in 1877 only one ship, of 174 tons, was built. Despite the decline of ship-building the demand for teak has been maintained, with the result that Moulmein retains its place as an important timber port, and the district forest revenue of nearly 6½ lakhs for 1911 compares favourably with the Rs. 2,06,359 recorded for 1856.

Modern Forest Administration.

The Forest Act was passed in 1865, and a complete new set of rules was drawn up under it. The forests were constituted into circles subdivided into divisions, each under the charge of Deputy Conservators. The forests of the district at first formed part of the Salween division of the Tenasserim circle. This division extended from the mouth of the Thaungyin to the Southern watershed of the Ye river, and included both the present territorial divisions.

The divisions as now constituted date from 1896, and comprise 1,224 square miles of reserved and 4,700 square miles of unreserved forests. They form part of the Tenasserim circle, the Conservator of which has his headquarters in Rangoon. They are three in number, the Thaungyin, Ataran, and Kado and Agency divisions, respectively. A

considerable re-arrangement is however at present under consideration.

Thaungyin Division.

The Thaungyin division extends on the north and west into the Thatôn district. Its eastern boundary is the Siamese frontier. On the south it adjoins the Ataran division, which is here bounded by the Gyaing river, the Kyondo-Kawkareik road and the Haungtharaw-Thaungyin watershed. It is in charge of a Deputy Conservator, and is subdivided into five ranges, each in charge of a range officer.

Nature of forest growth.

The forest growth of the division varies in character with the climate. In the plains of Kawkareik it consists chiefly of *indaing*, with *pyinkado* at the foot of the hills. As one ascends the hills it changes to moist forest with patches of evergreen, and at the highest altitudes consists again of *indaing*, and also includes 'pinus Merkusii,' which is found nowhere else in Burma and is to be seen at its best on the Taok plateau, an area included partly in the Thaungyin and partly in the Ataran division. On the Dawna range are large quantities of *kanyin* and wild doorian. Of the two chief reserves, the Mepale-Thaungyin consists of *indaing* and teak with patches of evergreen, while the Mekane is similar but of generally drier character and contains 'pinus Merkusii.'

Principal timber species.

East of the Dawnas nothing is extracted except teak (tectona grandis), as no less valuable timber would pay for working owing to the difficulty of extraction. The Thaungyin forms the sole means of transport, and the timber has to be floated down it to its junction with the Salween, picked up there and rafted down the Salween to Moulmein. In other words it has to travel the two longest sides of an immense triangle. For this reason the profits on the working of this division are but small. West of the Dawnas the principal species of timber extracted are :—

In (Dipterocarpus tuberculatus).

Pyinkado (Xylia dolabriformis).

The former comes chiefly from the Myapadaing and Kawkareik circles, and the latter from Myapadaing.

Reserves.

There are fifteen reserves in the division, the largest of which is the Mepale-Thaungyin with an area of 281 square miles, of which about three-fifths fall within Amherst district. Of the others, seven are included in the district, the principal being the Gawle reserve, 59 square miles, the Onkaraing, 53 square miles, the Mekane, 38 square miles, and the Kyaukket, 25 square miles. The Mepale-Thaungyin is the only reserve for which a working plan has yet been

drawn up. This came into force in 1908, and provides for the felling of 1,000 trees annually for thirty years. A working plan is to be made for the remaining seven reserves during the years 1912-13 and 1913-14.

Ataran Division. The Ataran division is entirely contained within the district. On the north it adjoins the Thaungyin division, the boundary of which has already been described. Its eastern boundary is formed by the Haungtharaw-Thaungyin watershed and the Siamese frontier; its southern is identical with the boundary of the district, and its western is formed by the gulf of Martaban and the Salween river. It is in charge of a Deputy Conservator and is subdivided into six ranges, each under a range officer.

Nature of forest growth. The nature of the forest growth varies as in the case of the Thaungyin division from the *in* of the plains of the Ataran to the teak of the valleys of the Winyaw and Haungtharaw and the 'pinus Merkusii' of the Taok plateau.

Principal timber species. Its principal timber species are similar to those of the Thaungyin and include :—

Padauk (Pterocarpus macrocarpus).
In (Dipterocarpus tuberculatus).
Ingyin (Pentacme suairs).
Pyinkado (Xylia dolabriformis).
Thingon (Hopea odorata).
Kanin (Dipterocarpus alatus).
Teak (Tectona grandis).
Pinus Merkusii.

The division is far better served with rivers than the Thaungyin division, having the Ataran and its tributaries, the Haungtharaw and the Gyaing, all available to convey extracted timber to Moulmein, and the Ye river in the South to convey timber to the sea. It thus provides the bulk of the forest revenue of the district.

Reserves. There are a large number of reserves in the division, if the extensions which have been made from time to time are counted as separate reserves. For practical purposes, however, reckoning extensions as part of the original reserves, there may be said to be nineteen reserves, of which the principal are :—the Megwa, 58 square miles, the Kyaikkamaw and Kyonkawun, 54 square miles each, the Kyunchaung and Yechaung, 35 square miles each, the Gungyi, 30 square miles, the Dali, 27 square miles, the Yachaung, 26 square miles, the Moulmein fuel reserve and the Ma-u, 25 square miles each, and the Hpakabo, 24 square miles. No working plans have been drawn up for any of these reserves, which are worked under a girdling scheme. Up to 1911-12

girdling had been carried out over 115 square miles, chiefly situated in the Kyonkawun, Hpakabo and Dali reserves, leaving 189 square miles in other reserves to be girdled.

The Kado and Agency division has nothing whatever to do with the administration of forests or the extracting of timber. It deals solely with the levying of revenue upon all timber floated down the rivers which debouch in the vicinity of Moulmein. Its territorial jurisdiction includes both banks of the Salween river up to flood level from the mouth of the Thaungyin to the sea, and thus deals not only with timber extracted in the Amherst and Thatôn districts and the Southern Shan States, but also with that from the forests on the Siamese side of the frontier, which finds its way into the Thaungyin and thence into the Salween. Kado and Moulmein (Battery Point) timber depôts and the island of Bilugyun are also included within the limits of the division. A Deputy Conservator is in charge. The timber, identified by the hammer marks put on in the forests, is collected at the timber depôts, when the revenue is assessed upon it. After payment of the revenue it is removed by the owners. Drift timber is similarly collected to be redeemed in like manner by the owners, or sold by auction if unclaimed. Kado and Agency Division.

No extraction of timber is undertaken by Government in either the Thaungyin or the Ataran division. Teak is extracted under leases, which are issued for a period of fifteen years. The revenue is paid on the timber collected at the depôts at the rate fixed in the leases. The lessees can extract only timber girdled by the Forest Department and dead or fallen timber. Other timbers, such as *in* and *pyinkado*, are extracted under trade licenses. The licensee is permitted to extract a given number of tons of the timber required within a given area. Similar prepaid licenses are also issued for the extraction of bamboos and other minor forest produce. The right to extract bats, guano from the caves in the limestone hills is sold by auction. Exploitation.

The average forest revenue of the district for the five years 1906-07 to 1910-11 inclusive was Rs. 6,42,728. Revenue.

There is no considerable exploitation of minerals in the district. The average annual revenue from royalties and fees on minerals for the five years 1906-07 to 1910-11 only amounted to Rs. 842. The prospector however is very busy in this part of the country, and large deposits of wolfram are alleged to exist in the vicinity of Mudon and of Ye. There is also said to be tin in the Yelamaing town- MINERALS. Miscellaneous.

ship. It is therefore possible that in the future minerals may assume a more important place among the resources of the district. Coal, sapphires and rubies occur on the Siamese frontier near Myawaddy, but not in paying quantities. Lead ore is to be found in the Taungnyo hills, and galena occurs in the limestone formation. Antimony is reported on the mountains that bound the valley of the Thaungyin. Pottery clay and laterite occur near Moulmein, and the former gives rise to a small industry engaged in the manufacture of pots and roofing tiles at Nyaungbinzeik.

Salt. By far the most important mineral industry of the district is salt manufacture, which is carried on along the sea-coast in Bilugyun, Kyaikkami and Ye townships. The salt revenue for the year normally exceeds a lakh of rupees. Two methods of manufacture are employed, *viz.* (1) from salt water and (2) from sissa or saline earth. By the former salt water is poured into fields carefully rolled and pounded, and after standing on them some time is passed into tanks and stored there for boiling. By the latter, marshy land which has been overflowed by sea water is scraped and the earth placed on a bamboo sieve. Water is then poured over it and percolates into a pot, carrying the salt from the earth with it, after which it is boiled. By the former method five or six viss of salt per cauldron can be obtained; by the latter three or four viss. A cauldron can be boiled four times in the twenty-four hours. A man and wife extracting the salt from saline earth can obtain perhaps 2,000 viss in the season, which lasts only three or four months, from the beginning of January until the rains break. Larger manufacturers, who store the brine in tanks, can continue boiling till July, and can secure an outturn of 12,500 viss per furnace per month. The salt from these larger factories is shipped direct to Rangoon, where it sells at about Rs. 70 per 1,000 viss, yielding a profit of about Rs. 63 a month on each furnace.

CHAPTER VI.

Occupations and Trade.

Occupations.—Agriculture. Arts and Industries. Pottery and tile manufacture. Salt manufacture. Silverwork, Ivory carving. Other minor industries. Factory industries.

Trade.—Sea-borne, Foreign. Coasting. Overland trade. Loca trade.

Occupations. Agriculture. The majority of the population of the district is dependent on agriculture. At the last census (1911) sixty per cent. of

the total population proved to be agriculturists, *i.e.*, directly dependent on agriculture for a living. A large proportion of the urban population also has a close connection with agriculture, such as rice mill hands, clerks, brokers and boatmen engaged in transporting the paddy to the Moulmein market. The cultivator on inferior and remote lands supplements agriculture with numerous subsidiary occupations, such as fishing, cattle grazing for hire, carting and cooly work in connection with timber extraction, etc. On the banks of the Winyaw the Metavo villagers supplement *mayin* cultivation by cutting a peculiar variety of reed for export to Henzada, where the reeds are woven into mats. Cotton weaving is a domestic industry throughout the district, and most of the clothes worn during work in the fields are home-made by the cultivator's womankind.

Arts and industries. Pottery and tile manufacture.

The manufacture of pottery and tiles is carried on chiefly at Nyaungbinzeik, a village two miles from the mouth of the Ataran. The industry is a domestic one, and is carried on during the dry weather. The pots, which are of various sizes, having been moulded are baked for twelve hours to the number of three or four hundred at one time. Their wholesale value is about Rs. 14, water pots selling at Rs. 5 per hundred and rice pots at from Rs. 1-8 to Rs. 3 per hundred according to size. The cost of digging and transport of clay, which is obtained chiefly from the Kyaikparan stream, is about Rs. 1-12 and of fuel Rs. 3 for each firing. A household of four or five does three firings a month, hired labour being rarely employed. These pots are inferior to those made at Zathabyin on the Thatôn bank of the Gyaing, which in turn have not the same repute as the Shwegyin pots.

The tiles made at Nyaungbinzeik are widely used for roofing *pongyi kyaungs*, *zayats*, and the houses of the well-to-do. They sell for Rs. 35 per ten thousand, which number represents the capacity of a kiln. The cost of fuel and clay per kiln is Rs. 6 and Rs. 7 respectively.

Salt manufacture.

Salt manufacture is carried on along the coast in Chaungzon, Kyaikkami and Yelamaing townships. A description of the industry has already been given in Chapter V.

Silver-work.

A certain amount of gold and silver-work is produced in Moulmein town, the chief demand being for silver bowls, betel boxes and ornaments. The work is of the typical Burmese character, and is paid for at the customary rate of one rupee per rupee's weight of silver for the best work, and eight annas for inferior productions, the purchaser supplying the silver.

4

Ivory Carving.

The distinctive craft of Moulmein, however, is the ivory carving. Some exquisite work is produced in ivory, the most striking example of which is a whole tusk carved throughout its length with images of Buddha set amidst and behind canopies of flowers and foliage. This is work of the most delicate nature, the tusk when completed being still all in one piece. A complete set of chessmen can be obtained for Rs. 200—250. Paper cutters and knife and fork handles are in steady demand at prices varying from Rs. 15 to Rs. 50.

Other Industries.

There are numerous other industries carried on in the district to supply local needs, such as cart and boat building, mat weaving, carpentry, *in* leaf or *dhani* thatch-making, etc., but these are common in many parts of the country and call for no detailed mention.

Factory Industries.

The factory industries are confined to Moulmein, and include sixteen rice mills, sixteen saw mills, two rice and timber mills and an iron foundry. The rice and saw mills are of course engaged in dealing with the paddy and timber produced in the district. The first saw mill was established in 1833, and the first rice mill in 1860. The largest European firms at present working in Moulmein are the Bombay-Burma Trading Corporation and Messrs. Foucar and Company in the timber trade, Messrs. Melosch and Company, Messrs. Bulloch Brothers and the Arracan Company in the rice trade, and Messrs. Steel Brothers and Messrs. Findlay & Sons in both the rice and timber trades. The largest native concerns are Bhichay Sagarmull, Babu Bhagwan Dass and R. Shwe Bux, all dealing in timber. There are numerous other native, Burman and Chinese businesses of smaller size in both the rice and timber trades. The Irrawaddy Flotilla Company maintain a dockyard, which gives employment to 116 hands, and the Kalagauk quarries employ over 800 men. The total number of employees in the industries which come within the scope of the Factory Act is over 4,000. The average daily number of employees per factory is 110, the majority of which are natives of India. In 1911 only 45 out of the total number of operatives were women, and no child labour is employed at all.

TRADE. Sea-borne, Foreign.

As the Customs Department was not established until 1855, no figures are available from which to study the early sea-borne trade of the district. Prior to the opening up of the country to the cultivation of rice the trade was chiefly in timber, and some conception of its growth can be obtained from the fact that the revenue from timber grew from

Rs. 20,804 in 1836 to Rs. 1,88,350 in 1854-55. By the time of the establishment of the Customs Department the rice trade had already begun to make its way, and out of total exports of a value of nearly five lakhs in 1855-56 less than one and a half lakhs represented timber, the bulk of the residue being rice. By 1875-76 the value of exports had risen to Rs. 1,18,44,357. In 1910-11 the figures were Rs. 1,37,45,126. In the interval between 1875 and 1910 Rangoon had risen to its present position as a timber and rice exporting port, in competition with Moulmein and drawing its supplies from a vastly wider area. It was not therefore to be expected that Moulmein could retain its pre-eminence, but, as the statistics show, although Rangoon has surpassed, it has not had the effect of totally arresting the development of the trade of the port.

Whereas the timber trade has always been chiefly with Europe, the rice trade was formerly chiefly with the Straits. Burma rice, however, gradually made its way in the European markets, and whereas in 1866-1867 only 1,102 tons were shipped to the United Kingdom, in 1873-1874 despite scarcity in Bengal the amount rose to 21,341 tons as against 15,712 tons exported to the Straits. The predominance of rice and timber among the exports can be judged from the fact that out of a total value of Rs. 1,37,45,126 in 1910-11, the sum of Rs. 1,18,16,715 represents rice and Rs. 11,91,096 timber.

The countries with which the chief export trade is carried on can be seen at a glance from the following table :—

Country...	Germany.	Austria Hungary.	The Straits.	United Kingdom.	France.
Value of exports in 1910-11.	Rs. 51,94,552	Rs. 48,59,461	Rs. 9,11,706	Rs. 8,23,671	Rs. 6,42,962

Foreign imports are not very considerable, as foreign goods reach the district chiefly by way of Rangoon, and thus appear under the coasting trade returns. They amounted in 1910-11 to Rs. 16,52,414. They comprise chiefly articles of food and drink, such as European provisions tea, sugar and betel-nut; metals and machinery; and manufactured articles, in the proportion roughly of 6 to 2 to 6 respectively. They come chiefly from the United Kingdom, the Straits,

Germany, Belgium and Java, of which the first named supplies over eight lakhs worth, the second over five lakhs.

Coasting. In foreign trade the exports far exceed the imports, but in the coasting trade the tendency is rather the opposite, as the following figures for 1910-11 show :—

Foreign trade.		Coasting trade.	
Imports.	Exports.	Imports.	Exports.
Rs. 16,52,414	Rs. 1,37,45,126	Rs. 1,14,36,994	Rs. 95,20,244

Besides rice and timber the coastwise exports include fruit and vegetables and hides. Rice in 1910 11 amounted to Rs. 27,93,324 and timber to Rs. 54,29,220, so that these commodities comprise the bulk of the coasting as of the foreign trade. Bengal is the chief customer, taking over 34 lakhs worth. Bombay comes next with 26½ lakhs and Madras with over 19 lakhs. Burma ports received 4½ lakhs.

The coastwise imports are of very varied character and include vegetable oils, ghi, tobacco, gunny bags, sugar, spice, cotton twist and yarn, piece-goods, machinery, metals and kerosine. The principal ports from which they are derived can be judged from the following table :—

Province ...	Burma.	Bengal.	Madras.	Bombay.
Value of imports in 1910-11.	Rs. 71,46,270	Rs. 23,66,638	Rs. 15,95,132	Rs. 2,68,131

The imports from Bengal consist chiefly of specie in payment for paddy and other exports, and those from Rangoon of re-exported foreign goods.

Practically the whole of the district trade passes through the port of Moulmein, an account of which, together with statistics of revenue, tonnage entering and departing, etc., is given in Chapter XIV.

Overland trade. No frontier custom-houses were established until 1876, but considerable care was taken to foster the overland trade. Mention has already been made in Chapter II of the

successful missions to the Northern Laos, Labaung and Zimmè in 1830 and 1834 to establish a trade in cattle. In 1847 Chinese caravans began to pass through to Moulmein. In 1880-81 the total imports and exports between the district and Siam were valued at Rs. 1,46,000 and Rs. 51,000 respectively, and these had risen in 1903-04 to 25 and 17 lakhs. The main route is by what is known as the Tadanku route, from Moulmein north-eastwards through Myawaddy. A second route is one called the Kyeikdon route, leading south of Tadanku into Southern Siam. The principal imports from Northern Siam are ponies and cattle, and from Southern Siam silk piece-goods and cattle. The principal exports are European piece-goods, silver and jewellery. The average annual value of the transfrontier trade of the district for the five years 1905 to 1910 was Rs. 7,94,143 in imports and Rs. 7,26,300 in exports. The figures however fluctuate considerably, and in 1898-99 imports attained a value of nearly 54 lakhs. Probably cattle mortality within the district has much to do with these fluctuations. The average for the five years stated gives a normal annual value.

Local trade. The local trade is carried on chiefly through the medium of brokers, hawkers and bazaars. For several years the big bazaar, on which a tax was imposed in 1830, and the Tavoyzu bazaar, built by Government in 1836, had a monopoly in Moulmein, the stalls in them being leased by the local authorities. The Bengal Government however was opposed to the principle of raising revenue from bazaar rents, and in 1846 the privilege of establishing private bazaars was conceded, at an immediate sacrifice of a revenue of nearly Rs. 40,000. In 1848 the big bazaar was sold for Rs. 51,200, and in 1865 the Amherst bazaar was sold by order of the Chief Commissioner. As a result of this policy the eleven considerable bazaars in Moulmein are all private, and the Municipality suffers from the absence of a considerable source of revenue enjoyed by other towns. The only bazaar in the district owned by a public authority is the Kawkareik Town Fund bazaar. The existing competition between the Irrawaddy Flotilla Company and the Burma Steamship Company and the consequent cutting of rates has led to a considerable amount of petty trade being conducted in Moulmein itself which was formerly carried on in local centres by jungle shop-keepers and hawkers. The latter hawk their wares about the country by boat and under normal conditions do a considerable petty trade.

CHAPTER VII.

MEANS OF COMMUNICATION.

Waterways. Railways. Roads. Ferries. Cart and boat hire. Rest-houses. Post and Telegraph.

Water ways. Until comparatively recently almost the only means of communication, both within the district and with the outside world, were by water. Until 1845 communications with Calcutta depended entirely on the chance of a vessel being on its way there, while the Commissioner had only a small schooner in which to visit the south of his charge, until she was replaced by a larger vessel in 1841.

In 1854 regular services to Penang and Rangoon were started, and in 1856 the Moulmein Steam Tug Company began to run steamers regularly to Tavoy and Mergui. The same company also ran a service to Rangoon, and was subsidised by Government in connection with the mails, until it was taken over in the eighties by the British India Steam Navigation Company.

At the present day the British India Steam Navigation Company maintains a regular service with Rangoon three times a week, and also a fortnightly service down the Tenasserim coast, calling at the mouth of the Ye river when conditions are favourable. Native boats ply between Amherst and Moulmein (30 miles), in one tide if required, and can also be hired between Karokpi and Ye in the dry weather. In the present absence of an adequate overland route communications with Yelamaing township are thus largely dependent on the season and the weather.

The internal communications of the district are mainly by river. The first regular service was that of the Salween Steam Navigation Company, founded in 1882, which was incorporated with the Irrawaddy Flotilla Company in 1900. The latter company now runs a regular service of launches up the Salween, between Moulmein and Natmaw in Bilugyun, up the Gyaing to Kyondo, and up the Ataran and Zami as far as Kya-in Seikkyi. A competing company, the Burma Steamship Company, at present runs a similar service on the Gyaing and Ataran, and the inhabitants of the plains of these rivers have been benefiting greatly by the consequent cutting of rates.

A number of navigable rivers and creeks, such as the Hlaingbwè and Pata streams, the Haungtharaw, Kayin and

Winyaw streams, all of which are navigable by country boat for long distances, serve to connect the inhabitants of the interior with these launch services. In the Yelamaing township numerous tidal creeks afford a ready means of local communication, but in the rains drift from the hill streams is apt to impede navigation. A navigable channel known as the Yegyaw creek flows down the centre of the township for about fifteen miles parallel with the coast and connects the Lamaing streams with the Ye river. The Ye river is only navigable for steamers of light draught under favourable conditions of tide and weather, and is difficult of approach owing to reefs off the shore.

All the larger towns and villages of the district are, as might be expected, situated on the waterways which form the chief means of communication.

There is no railway actually within the district, but Moulmein is connected by steam ferry with the Thatôn branch of the Burma Railways, which has its terminus at Martaban. This forms an additional means of communication with Rangoon *viâ* Pegu, and supplements the Salween as a route into the neighbouring district of Thatôn. A reconnaissance survey of a railway to Ye has been made, but there appears to be no immediate prospect of its construction. Railwa

The most important roads in the district are those from Moulmein to Amherst and from Kyondo to Myawaddy. Roads The Moulmein-Amherst road is 53 miles in length, and was made at a cost of Rs. 6,40,770. It contains 16 iron, 34 timber, and 87 brickwork bridges. This route was originally opened in 1833, and together with a road constructed by King Alaungpaya between Amherst and Mergui, which was re-opened in the same year but has since fallen into disuse, constituted for many years the sole road communication of the district. It was, however, allowed to fall into disrepair, and was re-opened in 1861. It has now an average width of forty feet, of which ten feet are metalled throughout. The Kyondo-Myawaddy road is 55 miles in length and was completed in 1906 at a cost of Rs. 5,31,440. It is not metalled throughout, but is bridged. It is of considerable importance, for it not only connects Kawkareik with Kyondo and thus with the launch service and Moulmein, but also carries the considerable transfrontier trade which passes by the northern or Tadanku route through Myawaddy. The road crosses the Dawna range, and magnificent views are obtainable from it. There are seven Public Works Bungalows *en route*, including those at Kyondo, Kawkareik and Myawaddy.

These two roads are maintained from Provincial Funds, as also is one from Nyaungbinzeik to Zathabyin, 6½ miles in length, metalled and bridged throughout.

Other roads of importance are those from Moulmein to Kyaikmaraw (11 miles), Kawkareik to Mitan (50 miles), the Natmaw-Kalwi-Chaungzôn road (16 miles), and one from Kya-in Seikkyi on the Zami to Kya-in on the Haungtharaw (55 miles), which are maintained by the District Cess Fund. There are also numerous cart tracks connecting jungle villages kept open by the villagers, but most of these are hardly practicable for carts in the rains. The Forest Department also maintains several useful roads in remote parts of the district, but these also are not adapted for wheeled traffic in the rainy season. Ye is connected with the Moulmein-Amherst road by a telegraph road, which however is impracticable for carts owing to its condition and the physical features of the country through which it passes. The overland internal communications of Yelamaing township are not of a high order of merit, the jungle tracks being frequently intersected by tidal creeks spanned by bridges of the flimsiest description and ill-adapted for shod feet. The crossing of a single plank or log bridge with the tide running strongly and alligators waiting below is an ordeal somewhat trying to the nerves.

The through routes into Siam have already been mentioned in Chapter I. The only one of them which can be termed a road is that *viâ* Kawkareik and Myawaddy already described above.

Ferries. There are two ferries across the Ataran, one at Nyaungbinzeik connecting Moulmein with the Nyaungbinzeik-Gyaing road, and one at Kyaikparan. There is a ferry across the Gyaing at Gyaing. The Yelamaing township has three ferries, across the Chaungtaung, Kawdut and Taungka streams respectively. All these are put up to auction annually, the rents paid by the lessees being credited to the District Cess Fund.

[Car]t and [boa]t [hire]. Carts are usually procurable in the plains at a rate of four to six annas a mile, but they are of course a very slow means of transport. Between Moulmein and Mudon there is both a motor and a horse omnibus service, while pony tongas can be hired for the journey from Kyondo to Kawkareik.

Country boats in the form of dug-outs are procurable on all the navigable streams at a rate of six to eight annas a mile, but the smaller sort cannot be recommended for dry travel on rivers used by steam-launches, the wash from which is very liable to swamp them. Sampans can be hired at the

more important villages at which launches halt, *e.g.*, at Ngabyema and Chaunghnitkwa on the Ataran and Kawbein and Karit on the Gyaing. They are more roomy and seaworthy than the dug-out, but slower. They are owned exclusively by natives of India.

Rest-houses. As might be expected in a district so sparsely provided with roads, Public Works Department bungalows are not very numerous. There are only three, exclusive of those on the Kyondo-Myawaddy road, and these are at Pa-auk and Lettet in the Mudon township and at Kwanhla in the Chaungzon township. These are supplemented by a Circuit House in Moulmein, a Dâk bungalow at Amherst and by bungalows maintained by the District Cess Fund, of which there are eight. There are also several bungalows maintained by the Forest Department which are usually available for the use of the ordinary traveller. *Zayats* are numerous in the more thickly populated parts of the district, as elsewhere in Burma, and usually provide quite tolerable quarters. As the traveller leaves the more fertile paddy lands, the villages grow smaller and *zayats* become few and far between, so that tents become a necessity.

Post and Telegraph. Moulmein township has five post offices, *viz.*, at Moulmein, Dawezu, Daingwunkwin, Mupun and Kado. Kawkareik and Yelamaing townships have two each at Kawkareik and Myawaddy, and at Lamaing and Ye respectively. Kya-in, Kyaikmaraw, Chaungzon, Mudon and Amherst have one post office each. There is no District Fund service. Postal facilities are sufficient for the needs of the district. There are also telegraph offices at all the above places except Dawezu, Kado, Lamaing and Kya-in. Telegraphic communication dates from 1863, when a line was opened between Shwegyin and Moulmein, Shwegyin having been connected with Pegu and Rangoon in 1858. The Moulmein-Amherst line was constructed in 1873.

CHAPTER VIII.

FAMINE AND SCARCITY.

The most common cause of famine and scarcity is drought which is conspicuously absent in the Amherst district. The copious rainfall and riverine inundation provide all the moisture required for the most exacting crop.

The average outturn of crops for the five years 1906-07 to 1910-11, taking 100 to represent a normal crop, was 89, with variations from 104 to 66. Local scarcity may of course

occur owing to overflooding or failure of the late rains, but, as explained in Chapter IV, these calamities cannot affect both high and low lands equally adversely at the same time. Again, while cultivators in the flooded tracts of the Kawkareik and Kyaikmaraw townships view heavy rainfall with anxiety, those in Ye and Amherst welcome it as helping to dilute the tidal inundation. Hill villages are not in so favourable a position. In 1910 it was found necessary to issue free supplies of seed grain to certain hill villages in the Kawkareik township, where there was a considerable amount of distress, though famine relief works were not found necessary. Crop failure on any considerable scale is, however, practically unknown, and therefore also famine and scarcity in anything like the sense in which these terms are understood in India or even in dry zone districts of Upper Burma.

CHAPTER IX.

GENERAL ADMINISTRATION.

GENERAL ADMINISTRATION.—Subdivisions. Townships. Judicial. Administration—Civil. Registration. Criminal Justice. Crime. Police. Jail. Public Works—Public Works Department. District Cess Fund. Light-houses.

GENERAL ADMINISTRATIONS.

In Burmese times Amherst district formed part of the *Myowun*ship of Martaban, but in effect the *Myowun's* authority only extended for a few miles south of Moulmein, and *thugyis* of villages beyond that area were practically independent. At the annexation Sir Alexander Campbell became Chief Commissioner of the provinces of Tavoy, Mergui, Ye and Eastern Martaban, as they were styled, and it was he who shifted to Moulmein the headquarters originally established at Amherst. He was succeeded in 1829 by Mr. Maingy, who in turn gave place to Mr. Blundell in 1834. In 1835 Mr. Blundell as Commissioner had under him a Senior Assistant in charge of Amherst district with offices in Moulmein, and a Junior Assistant in Amherst. The police were in charge of another Junior Assistant, who was also a magistrate. By the time Mr. Blundell was succeeded by Major Broadfoote grave corruption seems to have crept into the administration as well as considerable confusion as to jurisdiction. As an illustration of the latter it may be mentioned that Captain Durand, who succeeded Major Broadfoote in 1844, was removed two years later for certain high-handed acts which made it impossible for his senior local officers to work with him. On one occasion he handed over an officer in civil employ to the military

authorities to be tried by court-martial for acts committed in his civil capacity as officer in charge of the local jail. In 1850 the treasury was found to be deficient by Rs. 13,000 and Captain Impey, who was then in charge of the district, disappeared into Burmese territory.

In 1862 Tenasserim was joined to Pegu and Arakan as part of the province of British Burma, and the history of its administration becomes incorporated in that of the province. In 1866 Pagat, Thatôn and Martaban townships were added to the Amherst district, which thus comprised eleven townships, each divided into revenue circles. In 1895 the northern boundary of the district was again changed on the formation of the Thatôn district and was fixed as at present.

The resident head of the district is the Deputy Commissioner, as elsewhere in Burma. His headquarters are in Moulmein, as also are those of the Commissioner of the Tenasserim division, of which the district forms part.

Subd sions

The district is divided for administrative purposes into three subdivisions, *viz.* Moulmein, Kawkareik and Amherst, these places being the headquarters of the respective subdivisional officers. Before the formation of the Thatôn district there was another, known as the Martaban subdivision.

Tow ships

There are at present eight townships in the district. Of these, Moulmein and Chaungzon form the Moulmein subdivision, Kawkareik, Kyaikmaraw and Kya-in, the last-named dating only from 1911, form the Kawkareik subdivision, and Mudon, Kyaikkami and Yelamaing form the Amherst subdivision. The present designations of these townships date from 1901. Previously the Kawkareik township was known as the Haungtharaw township, the Kyaikmaraw as the Ataran, the Chaungzon as the Bilugyun, the Mudon as the Zaya, and Kyaikkami as the Wagaru. Each township is in charge of a Myoôk. The district is thus administered by a Deputy Commissioner invested with general, revenue and judicial powers, assisted by three subdivisional officers and eight township officers, all invested with similar, but inferior, powers. There is also a District Judge in charge of the department of Civil Justice, to whom the subdivisional and township officers who exercise civil judicial powers are subordinate in their capacity of civil judges.

Jud. Adı strat Civi

Before 1826 the *Myowun* of Martaban and his subordinates exercised civil judicial powers. After the annexation the Commissioner became the principal civil judge. His assistant in Moulmein had power to try suits up to Rs. 500 in value, and the Master Attendant, the equivalent of the

modern Port Officer, up to Rs. 200. The administration of civil justice would appear to have been in a somewhat chaotic state. Burmese law, modified according to British notions of equity and justice, was followed, except in cases between British litigants, when English law prevailed, but there were no codes or pundits, and a Burmese law officer had to be employed to expound the law of the land to the judges. Judicial procedure was simple in the extreme. A suitor applied to the clerk at the Court, stating his claim and asking for a summons. A short abstract of the plaint, defence and evidence was recorded at the hearing, except in petty cases, when only the plaint and the decision were written down. There were no pleaders. Mr. Blundell in 1840 wrote :—" The whole proceedings are carried on *viva voce* before the Judge with no delay other than may be necessary for bringing forward evidence, and execution of decree follows as a matter of course. The expenses incurred are too insignificant to detail, seldom exceeding four or five rupees." He deprecated any sweeping reform, possibly because of the impossibility of dealing with the volume of business by any more elaborate method. In one year 4,888 original civil suits were disposed of, of which 4,159 were dealt with by subordinate Burmese judicial officers. However, in 1841 pleaders were introduced, but as their fees were not included in costs, cases were frequently compounded for less than the value of the claim as a means of evading the payment of the fees.

In 1854 an Act for the Administration of Civil and Criminal Justice was passed, which put the law of Burma on a definite footing and systematised the administration, vesting the supreme control in the Sudr Adaulat in Calcutta. In 1864 a Recorder's Court was established in Moulmein. By Act XVII of 1875 the system was again revised, the Judicial Commissioner in Rangoon being invested with the powers of a High Court in relation to all courts in British Burma, and having subordinate to him the courts of the Commissioner, Deputy Commissioner, Assistant and Extra Assistant Commissioners. The Recorder's Court became the Court of the Judge of Moulmein.

The modern civil administration of the district is organised as follows. The district is within the jurisdiction of the Divisional and Sessions Judge of the Tenasserim division. The district courts are of three grades, that of the District Judge, those of the Subdivisional Judges of Kawkareik and Amherst, cases in the Moulmein subdivision being tried by the District Judge, and those of the Town-

ship Judges, six in number, the townships of Mudon and Chaungzon being included in the jurisdiction of the court of the Township Judge, Moulmein, for purposes of civil justice. There is also a Court of Small Causes, presided over by the District Judge assisted by an Additional Judge. The District Judge also acts as District Judge for Thatôn district. There are 49 village headmen invested with petty civil powers.

A study of the number and value of cases instituted in the various courts shows a considerable increase in litigation during the past twenty years. The following table shows the average number of cases per annum in each grade of court and the average value per case for the decades 1891—1900 and 1901—1910:—

	District Courts.		Subdivisional Courts.		Township Courts.	
Years.	Number of cases.	Average value.	Number of cases.	Average value.	Number of cases.	Average value.
		Rs.		Rs.		Rs.
1891—1900	153	3,9[illegible]5	13	[illegible]78	1,645	83
1901—1910	277	2,213	64	985	2,627	110

For the five years 1906—1910 the district court shows an average of 337 suits of Rs. 2,208 value, subdivisional courts show 58 suits of Rs. 992 value, and township courts 3,112 suits of Rs. 117 value. This confirms the impression given by the figures for the last two decades, *viz.*, that the number of cases is steadily increasing, the increase being most marked among suits of small value, a natural feature in a district in which trade has ceased to increase to any great extent and tends to fall into the hands of smaller concerns than were originally engaged in exploiting the existing resources.

This volume of litigation gives employment to a bar of considerable size. There are 35 legal practitioners licensed in the district, of whom seven are barristers-at-law, two are advocates, nine are second grade pleaders and seventeen are third grade pleaders. Of these no fewer than 27 find their employment chiefly in Moulmein. All those practising mainly in other parts of the district are pleaders of the third grade.

Registration. The Deputy Commissioner is the Registrar, his office being amalgamated for certain purposes with that of the

Treasury Officer, Moulmein, who is a sub-registrar. There is a pensioned Myoôk who also acts as a sub-registrar in Moulmein. The Subdivisional Officers of Kawkareik and Amherst, and the Township Officers of Chaungzon, Kawkareik, Kyaikmaraw, Kya-in and Mudon are also sub-registrars in their respective charges. The amount of business tends to increase slightly as regards immoveable property, 1,729 registrations being effected in 1911, the highest previous figure being 1,601 in 1903. The registrations affecting moveable property for the same years numbered 333 and 547 respectively.

Criminal Justice. In Burmese times criminal justice was administered by the Martaban *Myowun* and his subordinates. After the annexation the highest criminal court was that of the Commissioner, who could pass death sentences. His assistants were also magistrates, with various powers. When the supreme control was vested in the Sudr Adaulat in Calcutta, all sentences of more than fourteen years' imprisonment required the confirmation of that court. By the Act of 1854 the criminal powers of the Commissioner were definitely limited to fourteen years' imprisonment, the Sudr Adaulat dealing with cases requiring higher punishment. Act XVII of 1875 made changes on the criminal side similar to those effected on the civil side, the Judicial Commissioner in Rangoon becoming the supreme court.

Under the present system the Deputy Commissioner and his Subdivisional and Township Officers all exercise magisterial powers within the limits of their respective charges. The Divisional Judge is *ex-officio* Sessions Judge. The District Judge fills the post of Senior Magistrate, and there are also a Headquarter Magistrate, an Additional Magistrate, and a bench of Honorary Magistrates in Moulmein. All headmen of villages exercise petty criminal powers, and 26 of them are invested with higher powers under the Village Act.

Crime. Despite various expedients for policing the new district dacoity was very prevalent in the years immediately succeeding the annexation. The proximity of the Burmese frontier made it extremely difficult to cope with, as gangs from Burmese territory carried on organized operations in spite of the efforts of a flotilla on the river and the local river police. In 1851 there was a daring dacoity in the very middle of Moulmein town. In 1857 a rebellion broke out in Martaban, but did not spread to this district, being promptly suppressed by co-operation between the authorities of the two districts. The chief difficulty of the police in dealing with dacoity was

the antagonism or apathy of the people in general. In 1870 the leader of a gang in the district actually offered a reward of Rs. 600 for the head of the Inspector who was engaged in hunting him down, and who eventually shot him after a sharp fight. Dacoity, however, was gradually suppressed in course of time, but the Taungthus and Shans on the Siamese border continued to give trouble in the matter of elephant and cattle thefts, which were much facilitated by the proximity of the frontier.

Cattle theft remains the commonest form of serious crime in the district, and there were 71 convictions under this head in 1911. The diminution of robbery and dacoity may be judged from the fact that there were only three convictions for these crimes in that year. Excise and opium offences are common owing to the proximity of the frontier and in 1911 312 and 52 convictions respectively were obtained for them. Excluding prosecutions under the Municipal and Gambling Acts, offences under which are common everywhere and are of a petty nature, the commonest offences against special and local laws are those against the Forest Act, which numbered 62 in 1911 and are to be attributed to the large area of the reserves in the district.

Police.

At the annexation the policing of Moulmein was entrusted to the Military authorities, but in 1830 it was handed over, with the exception of that of the Cantonment, to the Civil power, the Master Attendant being at first police magistrate before the appointment of a special assistant to the post. The town was patrolled by night watchmen paid by voluntary subscription. In the district the village headman was the local policeman. With increased activity by the dacoits operating from Burmese territory came the necessity for supplementing these primitive arrangements. In 1838 a corps of Talaings, the Burman's hereditary enemies, was raised to act as a sort of military police, and in 1841 the policing of the town was handed over to sixteen street *thugyis*. When Major Broadfoote arrived he made severe criticisms on the police arrangements, and proceeded to reform them, absorbing the Talaings into the general police force. On the river he posted two gun boats, a motor boat, and two rowing boats, and also created police posts along the river bank. In 1846 a fixed assessment was substituted for the voluntary payment for night watch. In 1847 the local corps of police was abolished and replaced by Madras Infantry. The town police was composed of Madrassis and Chittagonians and was worse than useless.

Act V of 1861 introduced the police force in substantially its modern form. The police magistrate, whose functions had been a kind of blend of the functions of the modern subdivisional magistrate and those of the District Superintendent of police, was superseded by a superintendent with assistant superintendents under him and a force composed of inspectors, sergeants, head constables and constables, the whole subordinate to an Inspector-General in Rangoon.

The present police administration is in charge of a District Superintendent, assisted by two Subdivisional Police Officers, at Moulmein and Kawkareik, a Headquarters Assistant and a European sergeant. The force consists of 6 inspectors, 32 sub-inspectors, 71 head constables and 691 constables.

The military police force, which forms part of the Toungoo battalion, consists of 2 subadars, 2 jemadars, 26 non-commissioned native officers and 192 sepoys. Particulars of the distribution of both civil and military police over the district will be found in Volume B.

Jail. It was decided in 1831 to make the Tenasserim provinces a penal settlement, to the jails of which Indian convicts could be transported. Moulmein jail was chiefly used for this purpose, and whole ship-loads of thugs were transported there. Local convicts were sent to a jail at Amherst. The Moulmein jail was simply a collection of barracks inside four walls, guarded by jail peons by day and a military guard by night. From 1834 onwards the convicts were largely employed on extramural labour, especially on the roads, and were also hired out to private individuals as workmen and servants, until this practice was stopped by Major Broadfoote in 1844 as the result of abuses and the frequency of escapes. In the latter year the control of the jail was transferred from the senior assistant to the police magistrate. No distinction was made between European and native convicts, though in practice the former were allowed more freedom. Until 1851 lunatics were confined in the jail for want of anywhere else to put them. A new jail was built at some time between 1840 and 1850, consisting of double-storied brick buildings with wooden floors and tiled roofs. This was what is now known as "the old jail." In 1862 the system of convict warders was introduced, and in 1864 the existing Jail Department was organised and placed under an Inspector-General.

The present Central Jail in Moulmein is a new structure, opened towards the end of 1908. The Superintendent is the Civil Surgeon. This jail receives convicts from the Thatôn, Salween and Amherst districts. The inmates are employed on the usual forms of jail labour, the most important being carpentry, weaving and cane work. The manufactured articles are exhibited for sale in the jail sale room, situated just outside the entrance to the jail. The average daily population of prisoners for the years 1902—1911 was 562, of whom only six were women. The average net cost per prisoner fluctuates considerably, varying for the same ten years between Rs. 34-11 and Rs. 59-15, and averaging Rs. 46-12. In 1875 the net cost per head in this jail was Rs. 31-7, while in 1879 the corresponding figure for the whole of British Burma was Rs. 55, so that despite improvements in sanitation and the general conditions of prison life, there cannot be said to be any very marked tendency towards increase of cost.

Public Works. Public Works Department. The district forms part of the Amherst division of the Maritime circle. It is in charge of an Executive Engineer, assisted by two subdivisional officers, at Moulmein and Kawkareik. The department has the care of roads maintained out of provincial funds, the chief of which have been already mentioned in Chapter VII. Apart from these it is mainly concerned with the maintenance of its own bungalows, the court-houses and other public buildings, and with work carried out from District Cess Funds, which under the existing system is undertaken by the department. The Municipal reservoir, 16-inch main and service cisterns are also in the Executive Engineer's charge.

District Cess Fund. The District Cess Fund is derived chiefly from a levy of 10 per cent. on the land revenue, and is administered by the Deputy Commissioner. It is mainly expended on the maintenance of roads such as those mentioned in Chapter VII, of feeder roads from villages to steamer jetties, of bungalows and also in medical and sanitary services which are dealt with in the appropriate chapters, and in education.

Out of an average income of Rs. 1,10,439 for the four years 1907-08 to 1910-11, Rs. 55,352 was expended on civil works, Rs. 22,695 on medical services, and Rs. 24,647 on education.

Lig[ht]ho[uses]. The coast was first lighted in 1850, when a light was slung on a strong teak mast at Amherst Point.

The first of the two existing light-houses was erected in 1865 on Double Island at a cost of nearly a lakh of rupees, the whole of which was, despite remonstrance, debited to the local port fund. This light-house is built of rubble granite and Singapore brick, and is situated about twelve miles south of Amherst and seven from the coast in 15°53′ N. and 97°35′ E. The building is 75 feet high, and the centre of the lantern is 164 feet above high water. It shows a dioptric fixed white light visible for nineteen miles.

In 1903 the low power light erected on Amherst Point was superseded by the erection of a masonry light-house on Green Island, near the point. This light is a third order dioptric light, giving alternate flashes and eclipses, each of fifteen seconds duration, and making a complete revolution in two minutes. It is visible for seventeen miles.

CHAPTER X.

REVENUE ADMINISTRATION.

In Burmese times. British Administration. Land Revenue. Early Settlements. Settlement of 1867-68. Summary Enhancement of 1880. Subsequent Settlements. Revision Settlements. Capitation Tax. Fisheries. Miscellaneous land revenue. General review. Customs. Excise. Stamps. Salt. Income-tax. Total Revenue.

In Burmese times.

Prior to the annexation the revenue administration of the district was in the hands of the *Myowun* of Martaban, as far as his authority extended, *i.e.*, about twenty miles south of Moulmein. The Governorship was divided into circles, and the circles into villages in charge of headmen, upon whom fell the duty of collecting taxes. The principal tax was one upon families, assessed in proportion to the reputed wealth of the assessee, and the only direct land tax was a produce tax of nominally ten per cent. of the gross produce. There were also various other imposts, such as transit dues, fees on the sale of cattle, etc. The incidence of taxation varied in accordance with the demands made upon the *Myowun* by the Court, and with the rapacity of the *Myowun* himself and his underlings, for, although the amount each headman had to collect was fixed, there was nothing to prevent him collecting more and following the example of both King and *Myowun* by purely arbitrary exactions.

British Administration. Land Revenue.

For more than a year after the annexation no revenue was collected beyond that derived from opium, arrack and gambling farms. The first produce tax was imposed in 1827, and consisted of a grain tax fixed at one-fifth of the gross produce calculated on a rough estimate of the outturn, based on the number of plough animals and quantity of labour employed. No reason for fixing the rate at one-fifth instead of at one tenth as in Burmese times has been discovered. The tax was collected by *thugyis*, who were at first paid a fixed salary of from Rs. 10 to Rs. 15 a month, but in 1829 this was changed for a commission on the amount collected. Collection in cash at the current price was also soon substituted for collection in kind. The great fault of the system was that the cultivator could not tell from year to year what would be demanded of him as revenue, inasmuch as the estimate of outturn and calculation of the tax was made on each year's crop separately.

Early Settlements.

To remedy this defect a three-year settlement was entered into in 1831, the calculation being made on the same lines as before, but the rate being fixed for the period of the settlement. At its expiry a seven-year settlement was arranged on similar lines, but this was a failure, the conversion price calculated on prices obtaining during the previous settlement proving too high when the price of paddy dropped again, as it did in the early years of the seven-year settlement. The hardship thus inflicted on the cultivators was further enhanced in 1836 by an epidemic of disease which destroyed 12,000 buffaloes. The result was a steady decrease in the revenue. Up to the expiry of the seven-year settlement the tax was assessed on produce. In 1842 this system was superseded by an assessment per acre introduced by Major Broadfoote, who was then Commissioner, and who was in consequence long remembered by the people as the "Ekamingyi." The rates fixed varied from Rs. 2 to Rs. 5 per acre, but despite subsequent enhancements the revenue continued to decrease, although the settlement system had been abandoned and the system of yearly rates reverted to. To remedy this unsatisfactory state of affairs Captain (afterwards Sir Arthur) Phayre was deputed in 1847 to report on the revenue of the district. He introduced the *kwin* as the unit of assessment and also a system of measurement of the land and assessment of rates on the principle of soil classification. A tax on *taungya* and miscellaneous cultivation at a rate of Re. 1 and Rs. 2 per acre respectively was also introduced. A two-anna fallow rate was introduced in 1863. The system

evolved by Captain Phayre, although an improvement on its predecessors, was not altogether successful, and rates on all kinds of land were continually changing. In 1867 Colonel Duff reported that the chief causes of the persistent stagnation of the revenue, which was then but little more than it had been twenty-three years before, were constant alteration of rates and general over-assessment. Lack of population, the inadequacy of the police arrangements of the district, and the focussing of all eyes upon the valuable timber trade must also, however, be held largely responsible for the unsatisfactory condition of agriculture.

Settlement of 1867-68.

In 1867-68 Captain Horace Browne carried out a settlement of the district, in which he endeavoured to introduce a system of leases The advantages of this system were, that the sum assessed was fixed for the period of the lease, and that there was no annual measurement or assessment of extensions of cultivation. The attempt to get the people to take out leases, however, met with but very partial success. The last of them had expired by March 31st, 1869. As regards assessment, Captain Browne's proposals were based on a careful inspection of *kwins*, information obtained from the people themselves, and consideration of the proximity of the market. The object of this settlement was not enhancement of rates but encouragement of cultivation, and the general result was a reduction of the assessments, which were now fixed at from Re. 1 to Rs. 2-4, except in a few cases where a rate of Rs. 2-8 was imposed.

Summary enhancement of 1880.

In 1880 it was felt that the rise in the price of paddy, the improvement of communications, and the increase of cultivation since the last settlement entitled Government to a larger share of revenue. Deputy Commissioners were therefore instructed to draw up proposals for their districts, and as a result the rates on paddy land in the Amherst district were enhanced by from two to four annas, the maximum, however, remaining at Rs. 2-8. An exception was made in the case of Yelamaing township on account of its inaccessibility, which prevented it from profiting by the general rise in price, and of the comparatively small increase of cultivation since 1868. The inquiry preliminary to this enhancement can hardly be described as a settlement, and was of a more or less summary nature. Although by no means unjustified, the enhancement was somewhat inequitable in its incidence owing to the lack of detailed investigation.

In 1891-92 an area of 366 square miles situated in Bilugyun and the coast lands south of Moulmein was settled by Mr. A. P. Pennell, and rates of from Rs. 2-12 to 12 annas were imposed on paddy land, together with rates of from Rs. 6 to Rs. 2-8 on gardens, Rs. 4 on *dhani* and 4 annas per tree on solitary fruit trees. This settlement was for the term of fifteen years. The principle, which has since been adopted, of assessing each individual garden on its merits, *i.e.*, fixing classes for gardens and assigning each one to a class, was first introduced in this settlement, garden cultivation being more important in this district than in any previously settled. Subsequent Settlements, 1891-92.

In 1892—94 the northern part of Bilugyun, which had not been included in the area covered by Mr. Pennell, the Kado and Kawtun circles on the right bank of the Gyaing and seventeen circles on the left bank of the Gyaing and the lower reaches of the Ataran, an area of 273 square miles in all, were settled by Mr. A. Gaitskell. The rates imposed were from Rs. 3 to Re. 1 on paddy land, Rs. 4 on *dhani*, Rs. 3 on sugarcane, Rs. 2 8 on miscellaneous crops, from Rs. 6 to Rs. 2-8 on gardens, and 4 annas per tree on solitary fruit trees. 1892—94.

In 1894-95 an area of 245 square miles situated in Wagaru and Yelamaing, *i.e.*, the coast land south of those already settled in 1891-92, except the Hangan circle, were settled by Mr. Gaitskell. The resulting paddy land rates varied from Rs. 1-10 to 12 annas, and those on gardens from Rs. 5 to Rs 1-12. The rates on *dhani* and *kaingkyan* sugarcane were Rs. 3, on miscellaneous crops Rs 2-8, on Madras sugarcane Rs. 5, and on solitary fruit trees 4 annas per tree. 1894-95.

In the next two years Mr. Gaitskell settled a further area of about 403 square miles in the plains of the Haungtharaw, Gyaing and Ataran, together with the Hangan circle of Yelamaing township. The rates imposed on paddy land were from Rs. 1-12 to 12 annas, on gardens from Rs. 5 to Rs. 1-8, on *dhani* Rs. 3, on sugarcane Rs. 2 and Rs. 1-8, on miscellaneous crops Rs. 3 to Rs. 1-8, and on solitary fruit trees 4 annas per tree. 1895-96.

In 1906-07 a revision settlement of 467 square miles in the Chaungzon, Mudon, Kyaikkami and Moulmein townships was carried out by Mr. G. P. Andrew. The area included that covered by the original settlements of 1891—94, and certain lands near Moulmein and Amherst towns included in the settlements of 1894—96. The resulting rates on paddy land varied from Rs. 4-10 to 4 annas, on gardens Revision Settlements, 1906-07.

from Rs. 12 to Rs. 2-8, on *dhani* from Rs. 5 to Rs. 4, and on miscellaneous cultivation from Rs. 3 to Rs. 2-8; solitary fruit trees continued to be assessed at 4 annas per tree.

910—12. In 1910—12 revision settlement operations were conducted by Mr. P. E. Jamieson over an area of 1,279 square miles, the whole of which had been originally settled between 1892 and 1896, except 130 square miles which were now first brought under settlement. The bulk of the area covered by this revision lies in the Yelamaing, Kawkareik, Kyaikmaraw and Kya-in townships. The rates imposed were on paddy land Rs. 4-12 to 12 annas, on gardens from Rs. 6 to Rs. 1-8, on *dhani* Rs. 3, on sugarcane from Rs. 4 to Rs. 3, on miscellaneous crops Rs. 3, on tree cotton Re. 1, on *taungya* Re. 1, and on solitary fruit trees 4 annas per tree.

Capitation-tax. The first capitation-tax was levied in 1826, on Karens and Taungthus only, these being wandering peoples from whom it would have been very difficult to collect land revenue. It was assessed by *thugyis* and assessors and amounted to as much as Rs. 15 a family, though subsequently reduced to Rs. 8. In 1834 a tax of Re. 1 per head was imposed on Shan traders. In 1841 capitation-tax was abolished, but was reintroduced in 1843 at a rate of Rs. 5 per head on married, and Rs. 2-8 on unmarried men, except in the case of fishermen and cultivators, the latter paying Rs. 2. In 1848 the tax which had till then been imposed on all fisheries, except those disposed of by public auction for stated periods, was abolished, and capitation-tax came to be regarded as a commutation of it and was called Fish Tax. It would seem that the small cultivator generally supplemented agriculture by fishing, for the assessment was made by *kwins*, at Rs. 5 for those holding less than one acre, Rs. 2 for those holding less than five acres and Re. 1 for larger land-holders. It was at one time proposed to levy it only on the coast and tidal creeks and estuaries. The commutation idea, however, died out, and the tax became known as House Tax, and in 1863-64 an all-round rate of Rs. 5 and Rs. 2-8 for married and unmarried respectively was introduced, with a special rate of Rs. 2 and Re. 1 for hill tribes. The present normal rates are still Rs. 5 and Rs. 2-8. The total collections of capitation-tax have of course been steadily rising with the growth of the population. In 1895-96 the collection for the district amounted to Rs. 1,79,167 from 43,056 assessees. In 1909-10 the collection was Rs. 2,58,470 from 62,836 assessees.

The fisheries of the district are not of much importance. Nearly two-thirds of the revenue under this head is derived from net licenses, a proportion likely to be increased by the recent abolition of two of the previously leased fisheries on account of the damage to neighbouring agriculture entailed by their being worked under the lease system. The average annual fishery revenue during the five years 1906-07 to 1910-11 was Rs. 11,754 from net licenses and Rs. 6,871 from leased fisheries. Fisherie

Other sources of land revenue are receipts under the Village Act, survey fees, and royalties and fees on minerals, which include duties on clay, extraction and prospecting licenses. The average annual receipts from these sources during the five years 1906-07 to 1910-11 were Rs. 7,464, Rs. 3,698 and Rs. 844 respectively. Miscellaneous Land Revenu

The poverty of the district at the time of the annexation has been already referred to, as well as the fact that it was the valuable teak forests which caused the Government of India to decide to retain possession of the country. Thus in its early years the land revenue of the district was insignificant. Its failure to increase and the causes were pointed out by Colonel Duff in his report of 1867, which led to the settlement by Captain Horace Browne in 1868 and the imposition of rates calculated to foster agriculture rather than to raise the maximum of revenue. The success of these measures may be judged from the fact that, whereas in 1867 the land revenue of the district was only Rs. 3,36,080, it had risen by 1875 to Rs. 4,62,520 In 1894-95, the last year during which the boundaries of the district remained the same as in 1867, *i e*, including the country between the Salween and the Bilin river, the total land revenue amounted to Rs. 12,89,674. No comparison is possible between that of the following years, as the formation of the Thatôn district reduced the assessed area from 520,218 to 279 594 acres and the capitation assessees from 83,013 to 43,056. From 1895-96 cnwards, however, the land revenue has shown a steady increase. In that year land revenue proper amounted to Rs. 5,18,041, capitation-tax to Rs. 1,79,167 and the total to Rs. 7,17,778. In 1910-11 the corresponding amounts were Rs. 10,03,793, Rs. 2,62,985 and Rs. 12,93,494. Thus, the land revenue of the modern district of 7 059 square miles now exceeds the revenue of the district of 15,205 square miles as constituted in 1894-95. The result of the revision settlement of 1910-12 will be to still further enhance this increase. General review.

Customs were first levied in 1855, the rates being similar Cust

to those levied at Calcutta with one or two minor exceptions. The Master Attendant was the Collector. The total duty realised in the first year, 1855-56, was Rs. 73,864, of which Rs. 58,437 was on imports. Ten years later the total had risen to Rs. 1,03,377, while in 1875-76 it was Rs. 4,72,251, of which only Rs. 80,010 was on imports. The difference in the proportion of duty realised on imports and exports respectively in 1855-56 and in 1875-76 is due to the introduction in 1867 of an export duty of 8 annas per maund on rice and to the subsequent development of Moulmein as a considerable rice-exporting port. The total customs duty collected in 1910-11 was Rs. 8,20,640, of which Rs. 1,14,717 was on imports The Port Officer is the Collector of Customs. The only export duty is that on rice already referred to. There are special rates of import duty on arms and ammunition, liquors, opium, salt and salt fish. The general duty on other imports is at the rate of five per cent., with the exception of most iron and steel articles, on which the duty is at the rate of one per cent.

Excise. After Customs Excise is the most prolific source of revenue other than those grouped together under the head of Land Revenue, and supplies between one-fifth and one-sixth of the total for the district. It is also one of the oldest sources, arrack and opium having been taxed from the beginning of British rule. Excise farms were leased, and in the early days excise included gambling farms. In 1827 a gambling farm was let out for Rs. 300, and by 1829 the revenue from this source had risen to over Rs. 16,000. It was then abolished as the result of representations by the elders of the Burman community pointing out the disastrous effect of the encouragement of gambling upon the morality of the people. The retail license of opium was sold by auction, till in 1862 the system of granting licenses at Rs. 16 to an unlimited number of vendors was introduced. In the next year, however, a reversion was made to the previous system.

At the present day liquor licenses are sold by auction, as elsewhere in Burma, and opium vendors are appointed at a fixed fee. The 120 liquor licenses issued in the district are distributed as follows:—

Township ...	Kawkareik.	Kyaikmaraw.	Moulmein.	Chaungzon.	Mudon.	Kyaikkami.	Yelamaing.
Number of licenses.	7	16	29	31	23	8	6

There are also bonded warehouses under the contract distillery system at Kawkareik, Amherst and Ye. There are four opium shops at Moulmein, Chaungzon, Mudon and Kawkareik.

Since the beginning of the present century the excise revenue has remained fairly constant at between about 4½ and 6 lakhs. Of these between 2 and 3 lakhs are derived from liquor license fees and between 1 and 2 lakhs from sale of opium, the bulk of the remainder being excise and customs duty.

The revenue derived from stamps shows over long periods a tendency to steadily increase in proportion to the increase in the work of the Courts and in the volume of business transacted in the district. It is, however, subject to fluctuations as the result of abnormal activity or lethargy in the business world. Thus, the highest level ever attained by the revenue from non-judicial stamps was in the years 1902-03, 1903-04, and 1904-05, *i.e.*, in the years of the land boom already referred to in Chapter IV. On the other hand, the highest value recorded for revenue from judicial stamps was in the years 1905-06, 1906-07 and 1907-08, *i.e.*, immediately after the land boom. The first phenomenon may be attributed to the abnormal volume of business in land transacted during the boom, and the second to the abnormal amount of litigation which arose out of it. The increase in the work of the Civil Courts during the last two decades has been already mentioned in Chapter IX, and this is reflected in the returns of the revenue derived from stamps. Thus, taking the average of normal years before and after the land boom, a considerable increase is noticeable between 1898 and 1911. The total stamp revenue for the three years 1898-99 to 1900-01 amounted to Rs. 3,46,839, and that for the years 1908-09 to 1910-11 to Rs. 4,76,574 **Stamps.**

Prior to 1905 the salt revenue of the district was levied in the form of a composition duty on the vessels used in the manufacture. This system dates from 1827, when the rates first introduced were one rupee for each iron pot and four annas for each earthen vessel. The proceeds, however, were but small, the total salt revenue from the Tenasserim provinces in 1850 amounting to only Rs. 2,000. By 1893 this had risen to between Rs. 50,000 and Rs. 60,000 for the Amherst district alone. With effect from the beginning of 1905 a direct duty on the actual quantity of salt **Salt.**

manufactured and sold was substituted for the previous system, the immediate result of the change being a loss of over Rs. 12,000, which was attributed to lack of effective supervision. The direct duty eventually resulted, however, in a large increase in the salt revenue of the district, the average total for the four years 1907-08 to 1910-11 amounting to Rs. 1,16,941. Minor fluctuations in the revenue under this head are to be attributed to the vicissitudes of the different seasons. Heavy rainfall in March or early April at once puts a stop to brine concentration and causes a diminution in the outturn for the whole year, whereas delay in the breaking of the rains permits of brine concentration being carried on longer than usual and results in an increase in the year's outturn. The direct duty system has not proved wholly satisfactory. Under it the manufacturer is required to put the manufactured salt through a grating into a specially constructed godown, the key of which is kept by a Government Inspector or Assistant Inspector. The salt is withdrawn for sale as required, the amount is weighed by the Inspector, and the duty is recovered on each withdrawal. There is, however, no adequate security that all the salt manufactured finds its way into the godown, nor without a resident officer at each factory, which would involve a large and costly increase of staff, can such security be obtained. It seems likely that a modified form of the composition duty system will ultimately be found to be more effective. There are at present fourteen *kwins* in the district in which salt manufacture is permitted, three being situated in Yelamaing township, ten in Kyaikkami and one in Chaungzon. Of these, two in Kyaikkami and one in Chaungzon are to be closed after 1916. The rate of duty in force in the district in 1912 was ten annas per maund. An account of the method of manufacture is given in Chapter V.

Income-tax.

The income-tax collections of the district show a fairly steady increase of recent years. For the five years 1895-96 to 1899-1900 the average annual collection was Rs. 39,373, whereas for the corresponding period 1905-06 to 1909-10 it amounted to Rs. 54,255. The Collectors of Income-tax are the Subdivisional Officers within their respective charges. The Commissioner under the Income-tax Act is the Deputy Commissioner.

Total revenue.

The following table showing the total revenue of the district at different stages of its history derives additional interest from the fact that for some years after the

annexation the newly acquired Tenasserim provinces were hardly considered worth retaining :—

Year	1855-56.	1875-67.	1895-96.	1905-06.
	Rs.	Rs.	Rs.	Rs.
Total revenue ...	4,49,360	16,87,413	19,96,957	25,75,119

In 1910-11 the total revenue amounted to Rs. 28,80,694.

CHAPTER XI.

LOCAL SELF-GOVERNMENT.

Moulmein Municipality. Kawkareik Town Committee. District Cess Fund.

As elsewhere in Burma, it is only in the sphere of urban administration that the principle of Self-Government has been applied. This takes the form of a Municipality in the case of Moulmein and of a Town Committee in the case of Kawkareik town.

Moulmein Municipality.

The Municipality dates from 1874, prior to which the town was administered by the Town Magistrate under the control of the Commissioner, the revenue being derived from the night-watch tax and other local sources and expended in paying for the police, maintaining the roads, and other necessary works. With the application of the Municipal Act to Moulmein the town was placed under a Municipal Committee of members, partly official and partly non-official, nominated by the Local Government, with the Town Magistrate as President. The revenue was derived from a Municipal tax, fees from numerous licenses, fines and other sources similar to those at present in existence.

Although the Municipality shares with Rangoon and Toungoo the distinction of being the first set up in Burma, it cannot be considered to have advanced beyond the state of affairs established in 1874, and has by no means afforded a successful example of the application of the principle of Self-Government. Although the electoral system was in due course introduced, it was found necessary to suspend it at the beginning of 1907 on account of the condition into

which Municipal affairs had been brought by the mismanagement of the Committee. The Deputy Commissioner of the district was the President, but, even when unhampered by an elected committee, his hands were too full to permit of his doing justice to Municipal affairs in the state in which they then were. Accordingly, about the middle of 1909 a whole-time President, Mr. J. D. Fraser, was appointed, who spent two years in reducing Municipal affairs to order. At the end of that time Mr. Fraser assumed charge of the district, and the Deputy Commissioner thus again became President of the Municipality. The electoral system has not been restored. The Municipal Committee, as at present constituted, consists of five *ex-officio* members, *viz.*, the Deputy Commissioner, who is President, the Subdivisional Officer, Moulmein, who is Vice-President, the Civil Surgeon, the Executive Engineer, and the Port Officer, and fifteen non-official members who are nominated by the Lieutenant-Governor. The non-official members are recruited chiefly from merchants in the town.

The chief sources of income are land and house tax, taxes on animals and vehicles, conservancy, lighting and water rates, market and slaughter-house fees, hackney carriage, cart and lodging-house license fees, and other minor sources. In most Municipalities bazaar rents and leases constitute an important item in the Municipal receipts. In Mandalay, for example, the Zegyo and other bazaars provide a large proportion of the Municipal revenue, and in the case of Thayetmyo that proportion is as much as one-third of the total annual income. By the concession in 1846 of the privilege of establishing private bazaars, and the sale in 1848 of the Big Bazaar for Rs. 51,200, Moulmein Municipality has been deprived of this valuable source of income enjoyed by other towns. It has been estimated that the loss to the Municipality due to not owning any of the bazaars amounts to over Rs. 49,000, which has to be made up by extra direct taxation and by the imposition of unusually heavy lodging-house license fees. This of itself is sufficient to account for the fact that the incidence of taxation is heavier than in towns of similar status elsewhere in the province. Omitting water rate, which is a payment for a special service, and tolls, which are paid almost entirely by non-residents, the incidence of taxation amounts to Rs. 2-14-1, *i.e.*, about five annas and nine annas more than Bassein and Akyab respectively. The proportion of rate-payers to population is only about one in twelve.

The chief items of expenditure are Public Works,

conservancy, hospitals and dispensaries, lighting and water supply, the two latter being special service funds. Seventy-five miles of road are maintained under circumstances of considerable difficulty owing to the copiousness of the rainfall. The conformation of the town renders conservancy also a very difficult task owing to the distances which have to be covered.

Only about one-fifth of the houses receive Municipal service, and the staff necessary for adequately cleaning the streets entails considerable expense. The Municipal hospital and dispensary are dealt with in detail in Chapter XIII. Since 1898 the town has been lit by gas supplied from gas works situated in the Strand Road. The plant is capable of generating 12,500 cubic feet of gas daily, and serves to light the streets and also a certain number of private buildings. The water-supply was constructed at a cost of 9½ lakhs, and has proved a great boon to the town, having put a stop to the cholera epidemics which used formerly to occur regularly. Cases which still occur are generally attributable to the drinking of river water by the river-side population. The water-supply comes from a reservoir four miles south of Moulmein at the foot of the Taungwaing hills, and is distributed by gravitation throughout the town through the medium of stand pipes. The present water rate is 53 per cent. on rental value, approximately 100 per cent. more per head of population than in Prome, and 50 per cent. more than in Akyab. A small reduction may be possible when the project for raising the puddled wall of the dam and constructing a break pressure tank on the abandonment of the present service cisterns has been carried out. Fire protection is a subject which has recently engaged the attention of the Municipality. Two volunteer fire brigades equipped from Municipal Funds are maintained, in Shwedaung and Maungan quarters respectively. The police-stations are provided with hydrant keys, buckets and hose. A Merryweather automotor fire engine of a capacity of 250 to 350 gallons a minute has just been procured at a cost of Rs. 22,000.

The average income and expenditure of the Municipality for the five years 1906-07 to 1910-11 were Rs. 3,86,725 and Rs. 3,75,024 respectively.

Kawkareik Town Committee.

The Kawkareik Town Committee dates from 1884-85, but it was reconstituted in 1903. The committee consists of two *ex-officio* members, the Subdivisional Officer, Kawkareik, who is President, and the Township Officer, who is Vice-President, and eight non-official members, six

of whom are appointed by the Lieutenant-Governor and two by the Commissioner, Tenasserim Division. The chief sources of income are a house tax, a wheel tax and toll on vehicles, bazaar receipts, and fees from the slaughter-house and cattle market. The only true tax is the house tax, which in 1911 yielded Rs. 2,181, giving an incidence of taxation per head of population of 6 annas 3 pies. The chief items of expenditure are Public Works, the Town Committee Hospital, particulars of which are given in Chapter XIII, Maintenance of Market and Slaughter-house, Lighting and Education. The chief public works maintained are the bazaar, roads, bridges, and certain sanitary works, such as public wells. The annual income and expenditure of the Town Committee amount to about Rs. 12,000 each.

District Cess Fund. The District Cess Fund constitutes a third local fund in the district, but can hardly be considered a form of local Self-Government. An account of its working has been given in Chapter IX.

CHAPTER XII.

EDUCATION.

History. Literacy. Government System. Anglo-Vernacular Schools. Vernacular Schools. Female Education. Expenditure.

History. Public education in the district may be said to have begun in 1833, when Government sanctioned an allotment of Rs. 500 a month for the education of the indigenous races of the Tenasserim provinces. In 1834 a school was opened under the Reverend Mr. Bennet of the American Baptist Mission, and within twelve months the original attendance of 26 pupils had increased to 104, of whom twelve were girls. The hopes based on this encouraging start were not, however, fulfilled, although Mr. Hough, who succeeded the Reverend Mr. Bennet, was a most capable and successful teacher. In 1845 Mr. Hough was not only Head-master of the Moulmein Government School, but was also appointed Inspector of Schools for the Tenasserim provinces, another school having been established at Mergui. He devoted much time to the preparation of vernacular text books, a work in which the American Baptist Missionaries, who had opened a normal school of their own for Karens in Moulmein in 1843, were invited to co-operate. By 1854 the sum allotted to education had not increased beyond the original inadequate grant of Rs 500 a month.

Primary education was, as elsewhere in Burma, in the hands of the monastic class, and the children of the indigenous races received an elementary education, comprising reading, writing, religious instructions, and sometimes arithmetic, in the *pongyi kyaung*. The very slow progress made by education in the early years of the British occupation was always attributed to the difficulty of influencing this old-established, conservative and very inadequate system of primary education. In 1854 Colonel Bogle, the Commissioner, stated that the attempt to influence the *pongyi kyaung* régime was hopeless, and that effort should be concentrated on endeavouring to attract boys to the secondary schools in Moulmein after leaving the *kyaung*. He considered Moulmein well suited to become an academic centre, by way of compensation for the commercial decline which he foretold would come upon the town as the result of the annexation of Pegu. His expectations have to some extent been realized, for Moulmein is certainly well equipped with schools of all grades. His pessimism on the subject of primary education has not, however, been justified by subsequent experience. In 1866 Sir Arthur Phayre successfully initiated the policy of making the education given in the *pongyi kyaung* the foundation of the whole educational system of the country. Grants-in-aid were made to *pongyis* who were willing to comply with very simple requirements, text books were distributed to such as would receive them and teachers were sent round to assist, and thus influence, such as would admit them. This process of grafting Western culture on to the indigenous system of education has met with a large measure of success. By 1873 eighty-nine monastic schools in the district were being visited with the consent of the presiding *pongyis*, but it is worthy of remark that in Moulmein itself no fewer than fifty *pongyis* had refused to admit the examiner. At the beginning of 1912-13 there were 128 registered *pongyi kyaungs* with a total attendance of 4,211 pupils.

It is to the indigenous *pongyi kyaung* system that the province owes its large proportion of literates to the whole population. The standard of literacy in the Amherst district is fairly high, though not equal to that attained by some other districts, but the statistics are of course materially affected by the proportion of natives of India included in them. These immigrants hail from provinces with no indigenous system of popular education and their off-spring are not in a position to take advantage of the opportunities afforded to the majority of the natives of this province. At the census of Literacy.

1911 the proportion of literates to the total population of the district was 181 per thousand as compared with 168 per thousand at the census of 1901. Of the literate population more than five-sixths were males, this being due to the non-admission of females to the village monastic schools.

Government System.

The district forms part of the Tenasserim Education circle, which is in charge of an Inspector of Schools with headquarters at Moulmein. There are two sub-circles of Amherst and Moulmein, each under a Deputy Inspector, and there is also a Sub-Inspector of Talaing and Burmese schools.

As already explained, the foundation of the educational system is the *pongyi kyaungs*. There are 128 *kyaungs* which have conformed to the rules of the Education Department and sought registration. In addition to these there are 276 private vernacular schools in the district, but their total attendance is only 2,415 as compared with 4,211 for the registered *kyaungs*. The public monastic schools consist of one high school, that of U Ketumala at Kawkame, in the Mudôn township; twenty-four secondary schools, of which six are in Moulmein; and 103 primary schools, of which eighteen are in Moulmein. Six of the primary schools outside Moulmein are Karen. The most important secondary schools are those of U Pyinyadipa in Moulmein, U Tezawungta at Kwanthe in the Chaungzon township and U Thuzari at Nyaungbinzeik in the Kyaikmaraw township.

The number of lay public (*i.e.*, state aided or controlled) schools in the district in 1911 is shown in the following table :—

Vernacular.						Anglo-Vernacular.					
Schools.			Attendance			Schools.			Attendance.		
High.	Secondary.	Primary.	High.	Secondary.	Primary.	High.	Secondary.	Primary.	High.	Secondary.	Primary.
...	10	120	...	890	5,515	2	5	2	827	955	73

Under the heading "Vernacular" are included Mahomedan and Tamil as well as Burmese, Talaing and Karen Schools.

Anglo-Vernacular Schools.

The Anglo-Vernacular High Schools are the Government High and Normal School and St. Patrick's School, both in Moulmein. Each has an attendance of over 402 pupils. St. Patrick's School was established in 1842 by the Roman Catholic Mission. The five secondary schools are also all

situated in Moulmein. They are the American Baptist Mission Boys' School, St. Augustine's S. P. G. School, American Baptist Mission Karen School, Sam Buddha Ghosa School and the Mizpah Hall School. The first two are the largest, having each an attendance of from 200 to 250 pupils. The primary schools are the American Baptist Mission Boys' Schools at Mudôn and the St. Augustine's S. P. G. Chinese School in Moulmein.

Vernacular Schools.

Three of the vernacular secondary schools are situated in Moulmein town, those of Maung On Kin and Maung Po Min and the Technical School for the Blind. The last-named deserves especial mention as the only institution of its kind in the province.

Of the secondary schools outside Moulmein the largest are those of Maung Saw and Maung Po Cho in Chaungzôn township and that of the American Baptist Mission at Kyaikami. There is one Karen secondary school, that of Maung San Myat Paw at Kyondo. Twenty-eight of the lay primary schools are situated in Moulmein, fourteen being Burmese, nine Tamil and five Mahomedan. Of the remainder fifty-eight are Burmese, twenty-seven Karen, six Mahomedan and one Tamil. They are distributed by townships as follows:—

	Chaungzon.	Mudon.	Kyaikmaraw.	Kyaikkami.	Kawkareik.	Ye.
Burmese ...	21	21	7	2	3	4
Karen ...	2	...	14	1	10	...
Mahomedan ...	...	1	3	...	2	...
Tamil ...	...	...	1	...	...	...

Female Education.

As already mentioned, the monastic system of primary education ignores the female portion of the population altogether, so that female education among the indigenous races is entirely of modern origin. The district possesses three secondary schools for girls and thirteen primary schools, the total attendance being over 800. The secondary schools are the St. Agnes S. P. G. School and the Morton Lane School in Moulmein and Ma Cho's School at Chaungzôn. Of the primary schools, two are in Moulmein, four in Chaungzôn township, four in Mudôn, and three in Kyaikmaraw. Two other well-known girls' schools in Moulmein are the St. Joseph's Convent School, established by the Roman Catholic Mission, and St. Mathew's Orphanage School, which is under Church of England auspices.

Expenditure.

The Rs. 500 *per mensem* grant upon which public education in the district so long subsisted has expanded considerably in the process of time. The total annual expenditure on education in the years 1909-10 and 1910-11, for example, exceeded a lakh and a half, of which about half a lakh was derived from provincial funds, about two-thirds of a lakh from fees, and the balance from District Cess and Municipal Fund and other sources.

CHAPTER XIII.

PUBLIC HEALTH.

General Health. Malaria. Cholera. Plague. Small-pox. Vital Statistics. Sanitation. Hospitals. Leper Asylum.

General Health.

Despite its rainfall and the water-logged condition of large areas in the rainy-season, Amherst district is on the whole a healthy one. As one of the first portions of British Burma to be acquired it has doubtless shared the evil reputation which attached to the early province as the result of the ravages of disease among the troops engaged in the first Burmese war. This reputation, however, was not wholly deserved, and has been largely lived down by this time.

Malaria.

Notwithstanding the damp, the mosquitoes, and the similarity of the position of the Tenasserim province to that of Arakan, where malaria is ever present, most parts of the district are singularly free from malarial fever. A virulent form of fever is found, however, in the valley of the Thaungyin, which is anything but healthy in the rains, but this is a common feature in the vicinity of mountain ranges and occurs al-o in the valley at the foot of the Eastern slope of the Arakan Yomas. In rural areas "fever" is invariably given as the cause of the majority of deaths by disease, so that statistics under this head are notoricusly unreliable and afford no means of estimating the prevalence of malaria.

Cholera.

Cholera has on many occasions appeared in the district as a terrible scourge. In 1842 an outbreak occurred in Moulmein which carried off three hundred persons within a fortnight. This epidemic spread from the Burmese kingdom where its ravages were appalling. In 1874 there was another outbreak, which in that, and the previous year, covered almost the whole of British Burma, and in which Moulmein again suffered severely. There was another bad epidemic

in 1877. Smaller outbreaks used to occur annually in Moulmein until the opening of the water-works, which have struck at the root of the evil by providing the people with a pure water-supply.

Plague is recurrent in Moulmein, but there has never been an outbreak to compare with those experienced in Mandalay and Prome. Plague.

Local outbreaks of small-pox are of frequent occurrence in the jungle villages, and are often severe. In 1910 for example one village of 40 houses in the Ataran plain had 34 cases, of which 30 ended fatally. The people, however, especially if Karens, adopt such prompt methods of evacuation, deserting the village and blocking all the roads to it, on the appearance of the disease, that the infection has little chance of getting much hold. On such occasions the whole village also shows the greatest anxiety to be vaccinated, which, if a somewhat late precaution in some cases, is no doubt useful in preventing a recurrence of the epidemic. Only once in six years has the number of recorded deaths from small-pox been as many as one per 1,000 so that the measures taken are evidently fairly effective. In Moulmein town vaccination has been compulsory since 1885. The total of operations annually performed in the district varies considerably, but the average over considerable periods remains fairly constant. The average number of successful operations for the five years 1906-07 to 1910-11 was 16,601. Small-pox.

The duty of recording deaths and births is laid upon the village headmen, who are sometimes rather perfunctory over it. The general results, however, are no doubt fairly reliable, but the medical knowledge necessary to record the cause of death with any approach to reasonable accuracy is of course lacking. Births invariably exceed deaths, of late. The average ratio of deaths per thousand for the decade 1901—1910 was 18·7. Vital Statisti[cs].

In Moulmein and Kawkareik towns conservancy operations are conducted by the Municipality and Town Committee respectively. Moulmein has long had an unenviable reputation in the matter of sanitation. For the first thirty years of its existence it consisted of tortuous streets and a maze of mat houses extending to the river bank and in places overhanging it. Fortunately from the point of view of sanitation, fires were of frequent occurrence, and after a great fire in 1843 Major Broadfoote endeavoured to get the whole town rebuilt on scientific lines, but his proposed broad streets involved such a displacement of the residents that Sanitation.

an uncompromising opposition caused the failure of his attempt. As late as 1860 we find a Commissioner commenting on the odours of Nayabasti, which he said could be detected hundreds of yards away, and pointing out the danger to health from this and other similar insanitary quarters. As has been already recorded, the conservancy of the town is a problem involving great dfficulties, and although about one-fifth of the Municipal expenditure falls under the head of conservancy, the statement made in the British Burma Gazetteer of 1880, to the effect that "there is still much room for the expenditure of funds" under this head remains true to this day, despite the great improvement effected since that date. Sanitation in rural areas is mainly dependent on the enforcement of the rules under the Village Act designed to improve the sanitary condition of villages. Riverine villages are particularly liable to become insanitary owing to their cramped situation on the river bank, but the water-logged condition of the country in the rains makes improvement difficult of attainment. The Burmese style of architecture, however, prevails throughout the district, and the consequent free passage of air under and through the houses is undoubtedly a powerful factor in keeping even crowded villages comparatively sweet and wholesome.

ospitals There are four hospitals in the district, at Moulmein, Kawkareik, Amherst and Ye, and there is also a branch dispensary in Moulmein. Although there was always a Civil Surgeon attached to the staff of the Commissioner, the early hospital arrangements of Moulmein were entirely inadequate to the needs of the general public. The first predecessor of the present hospital was a sort of barrack dignified by the title of General Hospital. Both in 1840 and 1841 strong representations were made by the Commissioner to the Bengal Government, asking for the establishment of an adequate hospital, but he was informed that Government regarded it rather as a subject for private enterprise than for Government grant. By 1846, however, a general hospital had been erected, partly at any rate, by private subscription, and Government sanctioned a monthly expenditure of Rs. 277-14-0 to supply a subordinate staff. This hospital became very popular, and so great was the reputation of its Civil Surgeon in 1850 that patients from remote parts of the Burmese kingdom used to come for treatment. The management was in the hands of a committee, partly official and partly non-official.

The present Moulmein hospital is Municipal, and was opened in 1877. It is in charge of the Civil Surgeon. It contains 100 beds, and the average number of in-patients is between 60 and 80. The average daily attendance of out-patients is about the same. Quarters for the matron and nurses, Assistant and Sub-Assistant Surgeons, and an operating theatre have recently been added.

The Kawkareik hospital is maintained from Town Committee Funds, and was opened in 1902. It has accommodation for 10 in-patients, the average daily attendance being from 6 to 8. The average daily attendance of out-patients is from 20 to 30.

The Amherst hospital is maintained by the District Cess Fund, and dates from 1892. It has accommodation for 11 in-patients. The average daily attendance of out-patients is from 20 to 30.

The Ye hospital, also maintained by the District Cess Fund was opened in 1892. The building is old and quite unsuitable, and the whole institution has been described as "an example of what a hospital ought not to be". It is hoped to effect radical alterations in the near future, but until communications with headquarters are improved the supervision must remain inadequate. The hospital contains 9 beds, which are frequently found to be insufficient. The average daily out-door attendance is from 10 to 20. The Kawkareik, Amherst and Ye hospitals are in charge of Sub-Assistants.

The Branch Dispensary in Moulmein is a Municipal institution, situated at Battery Point, *i.e.*, at approximately the other end of the town from the General Hospital. It was opened in 1904, and is in charge of a Sub-Assistant Surgeon. What a boon it can be when under popular management is shown by the average daily attendance, which rose from 28 in 1910 to 60 in 1911.

Leper Asylum.

The Moulmein Leper Asylum was established in 1898 as a branch of the "Mission to Lepers in India and the East" and was erected out of grants from the parent society, the Local Government, and neighbouring Municipalities. On an adjacent site Government in 1906 erected a pauper ward for lepers committed under the Leper Act of 1898. All other inmates are "voluntary". The revenue is derived from monthly capitation grants from Local Funds and from Government, and from voluntary subscriptions. The average number of patients is about 40. The institution is Christian, but undenominational, and the inmates enjoy absolute freedom in religious matters.

CHAPTER XIV.

MINOR ARTICLES.

Moulmein-History.

Moulmein is situated in 16·29′ north and 97·38′ east at a distance of twenty-eight miles from the sea on the left bank of the Salween river just below its junction with the Gyaing and Ataran. It has been the headquarters of the Amherst district ever since its selection in preference to Amherst by General Sir Archibald Campbell in 1827. Before the annexation it was a mere fishing village of which no history is recorded. Its subsequent history has been one of almost continuous growth until the latest census, which shows it to be now in a stationary condition. By 1832 the fishing village of Burmese times had become a town of 14,000 inhabitants exclusive of a garrison of 1,700 troops. Unfortunately no attempt seems to have been made in early years to ensure that the town should be laid out in a convenient and sanitary manner. For the first thirty years of its existence Moulmein consisted of a maze of tortuous streets and mat houses extending down to the river's edge. To this day it still bears the marks of this early lack of system. There is no European residential area, and the town is

studded throughout its length with squalid and insanitary bustis and bazaars. The ridge, which is the glory of Moulmein, has become largely covered with numberless *phongyi kyaungs* and the only official residence erected on it is Salween House, at present used as the office of the Commissioner of the Division.

Fires.

The inadequacy of the early police arrangements and the fatal consequences of the lack of adequate sanitation and water supply have already been referred to elsewhere, but the greatest enemy the town has had to contend with has been fire. In 1831, 321 houses were burnt in one fire. In 1843 another great fire occurred, and Major Broadfoote attempted to take advantage of it to get the whole town re-built on scientific lines, unfortunately without success. In 1846 three-quarters of the town were destroyed by fire. On Christmas day, two years later, six lakhs worth of property shared the same fate, the fire extending from St. Mathews road to the old court-house and thence to the water's edge. After the last disaster the inhabitants suggested the establishment of a pucca area; *i.e.*, the granting of a portion of the burnt-out area for the erection of pucca houses only, but Mr. Colvin thought this would press unduly on the poorer classes and contented himself with recommending Government to insist on tiled roofs in the centre of the town and to assist with money and materials in enforcing the regulation. At the same time three fire engines were supplied, and large wooden reservoirs whence they could obtain water were erected in various parts of the town. Nevertheless, in 1854, another extensive fire occurred, which destroyed 400 houses between Penang street and Tavoyzu bazaar along both sides of Lower Main Road down to the water's edge. In November 1856 yet another fire destroyed all the dwellings from Penang street to Freemasons' street. After the last two fires Mr. Hobday, who had made the first survey of the town in 1851, a map of which is still extant in the Deputy Commissioner's office, was deputed to make a fresh survey of the burnt-out area, and new roads and streets were laid out. In March 1865 another great fire occurred, which led to the opening out of three more new streets. By this process of baptism by fire Moulmein gradually assumed its present form.

Land Tenure.

In the years immediately succeeding the annexation every encouragement was given to immigrants, who were allowed to clear and occupy land indiscriminately with or without permission. With the growth of the town, however, urban land began to acquire value, and in 1845 Sir H. M. Durand

framed the first rules for the grant of town lands. Under these rules land applied for was notified for one month in the local newspapers, and was then sold by auction at the Court-house.

Portions of the town lands were surveyed in 1847 and leasehold grants were issued for them, the only charge being a registry fee of one rupee, which was raised in 1856 to two rupees. In 1858 a new form of leasehold grants was issued, charged with a rental of Rs. 5 per acre. Meanwhile grave irregularities had crept into the Grant Department owing to the want of rules, and had given rise to anomalous tenures, such as " renewed grants ", which were mere reissues of leaseholds which had expired or been sold, and " split grants ", which were supplementary grants issued on the subdivision of an orginal one. In 1861 grants were also issued in fee simple, leaseholders prior to April 5th 1858, redeeming the land tax at the rate of Rs. 5 per acre, and those subsequent to that date at twenty years' purchase, *i.e.* Rs. 100 per acre. A fresh survey of the town was made in 1863, and a land register was instituted, which materially assisted to reduce matters to order. There were, however, no rules for the transfer of grants, and it was not until the Registration Act of 1871 that the working of the Grant Department became satisfactory. The previous system had roken down owing to the absence of rules for recording transfers and the inaccuracy of early surveys. The latter as due to the ignorance of the surveyors, " who in some cases measured the area of the house only, leaving out the compound altogether ", as Mr. Barr, the officer in charge of the Grant Department reported in 1871 in his comprehensive note on the history of land tenure in Moulmein. The fundamental error, however, was the failure to take a comprehensive view of the future town, and Mr. Barr contrasts the haphazard way in which Moulmein was allowed to develop with the system adopted in Rangoon, where, after the capture of the town, " a survey was at once commenced laying it off in rectangular blocks subdivided into allotments for buildings."

Food Supply. The difficulties regarding the food supply of Moulmein in its early days have already been referred to. For some time Government allowed stores to be brought from Calcutta and Madras free on Government ships. With a reduction in the garrison, however, this privilege was withdrawn, and the cost of living again became very high, so that 1841 heard the same complaints of high prices and bad servants as are stili rife in 1912.

The first newspaper printed in Burma appeared in 1836 from a press established at his own expense by the then Commissioner, Mr. Blundell. It was printed in both Burmese and English. Finding that the venture produced a profit of Rs. 150 a month, Mr. Blundell asked Government to transfer it to the education committee after reimbursing his initial outlay. It then became known as the "Moulmein Chronicle", and was subsequently edited by Mr. Hough until Government thought it advisable to put an end to all official connection with the press. In 1846 there were two Moulmein papers, the "Chronicle" and the "Moulmein Free Press" which were followed in 1849 by the "Friend of Burma". The chief local paper at the present day is the "Moulmein Advertiser." News-papers.

The administration of the town in its early days was vested in the Town Magistrate, and the first Municipal tax was the Chaukidari, or night watch, tax, established in 1846 to supersede the previous voluntary contribution. It was assessed by blocks, and varied from two rupees to one anna a month according to the means of the assessee. In 1847 Mr. Colvin commented on the number of gharries in the town, remarking that apparently no one in Moulmein ever walked, and recommended a tax on wheeled vehicles. The suggestion was again made by his successor and was finally adopted. In 1864 the town funds were drawn from sale of town lands, hired carriage, cart and boat licenses, dock and ground rent, slaughter house fees and fines. The Municipality was established in 1874, and an account of it has already been given in Chapter XI. Town Administration

In the early years of the British occupation there were two Master Attendants, or Port Officers as they are now called, one at Amherst and one at Moulmein. With the transfer of the headquarters of the Tenasserim provinces to Moulmein, Amherst speedily dwindled into insignificance, and the post of Master Attendant there was abolished. The duties attached to the post in Moulmein were multifarious, and included the charge of the police until the appointment of a special Police Magistrate, and the functions of a Magistrate, Civil Judge, Collector of Timber Duties, Postmaster and Storekeeper. The pilots, of whom there were four, were also under his charge. They were paid a fixed salary by Government, and pilotage dues were credited to the State. The river had been buoyed before 1830, but the buoying was not very accurate, and the pilots were underpaid, incompetent and intemperate, so that grounding of ships was a frequent occurrence. The channel now in The Port.

use was not discovered until 1842, when Lieutenant Fell in the course of taking soundings came upon it. In 1847 the pilot service was thrown open to competition, and the pilots were paid by half the pilotage dues. These, however, barely afforded a living wage, and the service showed no improvement, so in 1849 the previous system was resumed. The present system, under which the pilot takes all the pilotage dues, was instituted in 1856, but as late as 1867 of such ill repute was the pilotage of the port that it was only with difficulty that insurance companies could be persuaded to insure ships going up the Moulmein river.

The history of the growth of the port is so closely connected with the history of the district as a whole that it has already been dealt with in most of its aspects in previous chapters. An account of the growth and decline of the ship-building industry and of the development of the timber trade will be found in chapter V, and details of the steady increase of the trade of the port, and of the nature of its exports and imports have already been given in chapter VI. At the present day the port is in charge of a Port Officer belonging to the Royal Indian Marine and is buoyed and lighted by the Port Fund, which had an income and expenditure of 1·75 and 2·17 lakhs respectively in the year 1910-11. One thousand two hnndred and seven vessels with a total tonnage of 569,133 tons entered and cleared at the port in the year 1911-12, as compared with 1,151 vessels aggregating 521,555 tons in 1875-76 and 664 vessels aggregating 153,886 tons in 1855-56.

he odern own.

The configuration of Moulmein is roughly that of an inverted "L", the vertical line representing the course of the Salween, and the horizontal line that of the Ataran. The former contains four divisions of the town and the latter one. The situation is one of great natural beauty. The traveller arriving by sea passes up the river between banks crowned with evergreen foliage, while parallel with the banks on each side run low ranges of hills studded with pagodas. The town itself lies among trees at the foot of a ridge, while on the other bank of the Salween is the promontory of Martaban with its low hills stretching away north and west till they merge in the great mass of the Thatôn hills. Through the town itself, parallel with the vertical line of the inverted " L ", runs a ridge, on which stand the two large pagodas of Uzina and Kyaikthanlan, the gilded shaft of the latter strikingly conspicuous in the sunlight. Between them are three other conspicuous pagodas, from one of which the midday gun, a manufacture

of Fort William in 1815, is fired and ships are signalled. The view from this ridge can hardly be surpassed even in this land of riverine scenery. The impression of decay which closer inspection of the town leaves is hidden among the trees which line the river bank. On the west are the low hills of Bilugyun, and northwards the bold mass of the Thatôn hills and the rugged outline of the limestone eminence known as the Duke of York's Nose, which is about 2,000 feet in height. To the east and north-east stretch vast paddy plains intersected by the courses of the Gyaing and Ataran rivers and studded with vast isolated masses of limestone which rise up sheer out of the plain. The whole eastern horizon is bounded by the lofty spurs of the Dawna range, while the low chain of Taungnyo hills stretches away to the South dividing the fertile plains of Mudon from the valley of the Ataran.

The configuration of the town itself can also be well studied from the ridge. It lies long and narrow along the bank of the Salween from the mills of Mupun between the river and the paddy fields to the Maidan and Battery Point at the Northern end of the ridge, whence it turns eastwards along the Ataran, on the banks of which are more mills. Two main roads run the whole length of the town from the Maidan, round which lies the old Cantonment, to Mupun. Parallel with these for part of the way run the Strand Road on the river bank and another road at the foot of the ridge. Numerous cross roads run east and west, the chief being Daingwunkwin road leading from the Maidan to the Nyaungbinzeik ferry which connects Moulmein with the hinterland.

The most notable building is Salween House, built by Colonel Bogle as a private residence, and now the office of the Commissioner, situated near the South end of the ridge overlooking Salween Park. At the foot of the ridge northwards from Salween House stand the General Hospital, St. Mathew's Church, the Government High School and the Government Offices. At the south end of the ridge is St. Augustine's Church, and in Nayabasti below the Kyaikthanlan Pagoda are St. Patrick's Church and the old jail, north of which near the Maidan are the present Civil Jail and the Military Police Lines. On the Strand Road are the Post Office, Customs House and Port Office, and at Battery Point the Government Timber Depôt, Police School and Public Works Department Offices. The surface of the town area is undulating, the eminences being occupied by the European and Eurasian residences and the depressions by the unsavoury bustis already referred to. The business

quarter of the town is situated along the river bank. Opposite the extreme north-west angle of the town is situated a small island known as Crow Island, which perhaps deserves mention, as it harbours the whole of the considerable crow population of the town. Every evening about sunset throughout the year one sees the crows from all over the town, which has an area of 15 square miles, flying over to this island to roost. At daybreak they return to resume their useful scavenging operations. The trade, industries, population and adminstration of the town have already been dealt with in their appropriate chapters.

Moulmein Subdivision and Township.

Moulmein Subdivision, the headquarters of which are at Moulmein, is situated on the north-west corner of the district, and consists of two townships, those of Moulmein and Chaungzon.

Moulmein township comprises roughly the Kado and Kawtun revenue circles on the northern bank of the Gyaing- and some lands immediately surrounding the Municipal area. A description of its boundaries is therefore necessarily somewhat complicated owing to the lack of natural features. The boundary on the north may be roughly defined as following the north and east limits of Minywa *kwin* and the north limit of Kawkamikyun to the Kyonthin stream and thence this stream and the Pekata stream; and on the east as following the north and east boundaries of Kundaingtaung *kwin*, the Alan-Sekka stream to its mouth, thence to the Gyaing river, including Kawhla-Chaungwakyun, Kopawkyun, Kyunthit and Dawekyun *kwins* to the mouth of the Ataran, and thence the Ataran to the south-east corner of Kyetthungon *kwin* in the Ngante circle. On the south the boundary runs along the south of Kyetthungon, Shanywa, Shanywa west and Petkin east *kwins*, to Municipal boundary pillar No. 18 on the Taungwaing road, whence it turns south to boundary pillar No. 19 close to the Municipal water-works main pipe line, and thence in a south-easterly direction to boundary pillar No. 20 on the Kimmungyon stream, which it follows to the Kimmungyon Kyaung road and pillar 21. Thence it proceeds to the Taungnyo pagoda and the Chaungsauk stream, which it follows to the Amherst road at its junction with the Kawya road, and along the latter to Gwegon and Kyauktankyun *kwins*, and thence from the mouth of the Kawkani stream to the mid Salween. The western boundary proceeds up the Salween including Yelekyun, to Battery Point, whence it continues north to include Gaungzekyun, Mekyun, Mezekyun, Kawseinkyun, Kawkanikyun and Minywakyun *kwins*.

The most important village in the township is Kado, which had a population of 2,924 at the census of 1901. In 1911 the population numbered 3,076 persons. Its inhabitants are chiefly Talaings, but adjoining it is the village of Kawhnat occupied by Burmans numbering 1,700 in 1911. These villages are situated on a peninsula on the left bank of the Salween about five miles from Moulmein. Kado is the site of an important Government depôt timber and revenue station, and gives its name to the Kado and Agency Forest Division. It is a place of considerable wealth derived from the timber trade, which, however, is decreasing owing to the exhaustion of the forests upon which it depends. Kawhnat is the home of the proprietors of the Burma Steamship Company now running in opposition to the Irrawaddy Flotilla Company on the local waters. A cluster of shrines built by this family is a feature of the place, and affords excellent examples of glass mosaic work, painting in relief and ivory carving. The other village of some size is Kawhla which had a population of 1,547 inhabitants at the 1911 census. Kado Kawhnat. Kawhla.

Chaungzon Township comprises the Islands of Bilugyun Kawmupun, Chaungwakyun and Kyunnu, and has an area of about 200 square miles. It is densely populated, having according to the latest census (1911), 49,271 inhabitants, of whom the bulk are Talaings. In 1901 the population was 41,880, and in 1891 was 34,056. Already cattle have to be sent away from the island for grazing, and complaints of scarcity of firewood are heard. The township is highly cultivated, the area under the plough in 1910-11 amounting to 125 square miles. Situated at the confluence of three rivers and thus receiving an ample deposit of silt, the island of Bilugyun forms a paddy tract of exceptional fertility, and its grain is consequently of the highest character and much in demand for export to Europe. The inhabitants of the island themselves not infrequently consume inferior rice imported from elsewhere, so satisfactory is the price offered for their own grain. Chaungzon Township.

The headquarters of the township are at Chaungzon which, like most of the villages in Bilugyun, is situated at the foot of the range of hills which forms the backbone of the island. The hillsides are covered with garden cultivation, and rubber and cotton are also grown on a small scale, while lands too flooded for paddy cultivation are utilized for growing the *dhani* palm. Chaungzon itself had a population of 1,814 at the 1911 census. In 1901 the population was 1,112. It contains the Township Court and offices, a post and telegraph office, opium shop Chaungzon.

and a bungalow. The most striking feature of the place is a charming artificial lake, which lies in a division of the hills dammed by a portion of the Government road running from Chaungzon to Kalwi. The population of Chaungzon is chiefly Talaing by race and agricultural by occupation, as is the case of almost all the villages in the township, but there is also a Burmese element. There is a rice mill in the village, where rice from the neighbouring lands is milled.

Kareikthit and Kwanthe.

Adjoining Chaungzon on the south and east is the village of Kareikthit, which showed a population of 1,213 in 1911, and adjoining Kareikthit is the village of Kwanthe, which had 1599 inhabitants, including a considerable Burmese element, in 1,911. Each of these villages has, like Chaungzon, a rice mill to which paddy is sent by the cultivators of the centre and south of the island. After milling, the rice is sent by the Chaungzon-Natmawseik road to be shipped to Moulmein for export. Close to Kwanthe is thevillage of Mayan, the most southerly port of call of the Irrawaddy Flotilla launches.

Kwanhla, Pampa and Muritgale.

Other large villages in the south of Bilugyun are Kwanhla, Pampa and Muritgale, which showed populations of 1,038, 1,066 and 2,117 respectively at the census of 1911. The last-named is a much over-crowded village, and suffers from incessant visitations of epidemic disease.

Sepala and Kamake.

In the village of Sepala, which has about a thousand inhabitants, the chief occupation is sea-fishing, which is also found as an industry subsidiary to agriculture at Kamake, a village of about the same sicze.

Kalwi.

In the north of the island the village of Kalwi, which had a population of 1,936 in 1911, possesses a rice mill which deals with paddy from the north part of Bilugyun. The prosperity of the place has, however, declined somewhat since the building of the railway to Martaban, and it is no longer a port of call for the river launches. The inhabitants, who are chiefly Burmans, are poor and somewhat addicted to crime. There is a district bungalow in the village.

Kwanyaik.

Kwanyaik, which had 1551 inhabitants in 1901, was destroyed by fire in the dry weather of 1912, but most of its inhabitants are men of some substance, and the village was speedily rebuilt on an improved plan. At the census of 1911 the population amounted to 2,567 persons. The chief occupation here is agriculture, but there are also six salt fields in the vicinity.

Ywalut, Mudun and Kahnyaw.

Other large villages in the north of Bilugyun are Yawlut, Mudun and Kahnyaw, which had 2,225, 1,293 and 2,216 inhabitants respectively in 1911. They are all Talaing agricultural villages of the type of those described above.

Kawkareik subdivision comprises the eastern half of the district, and consists of three townships, Kawkareik, Kyaikmaraw and Kya-in. The Subdivisional Officer's headquarters are at Kawkareik.

Kaw-kareik Subdivi-sion and Town-ship.

Kawkareik township is the north-eastern township of the district. It is bounded on the north by the Thatôn District, and the boundary commencing from the junction of the Pabyauk stream with the Gyaing river, is identical with the district boundary as described in Chapter I. Its eastern and southern boundaries are likewise identical with the district boundary and march with the Siamase frontier. From the frontier the boundary follows the Dawna range to its junction with the ridge which forms the northern boundary of the Udaung village tract, and then follows this ridge to the source of the Hlakado stream. It follows this stream to its junction with the Haungtharaw and then the Haungtharaw itself to its junction with the north-west boundary of the Kammareik village tract, whence it proceeds along the north-west boundaries of this and the Thameindut village tracts and the north-east, east and south boundaries of the Kywebyu-in *kwin* to the Kayin stream which it follows to its junction with the south boundary of the Ibaing village tract. It then proceeds along the south and west boundaries of that tract to the Pabyauk stream, which it follows to its junction with the Gyaing.

The township includes the eastern hilly part of the district as well as the fertile plain of the Gyaing and Haungtharaw, and is consequently comparatively sparsely populated, its area of nearly 2,000 square miles having 46,902 inhabitants at the census of 1911. The returns for 1901 and 1891 were 31,192 and 19,415 respectively. The area under cultivation in 1910-11 was 113 square miles, as compared with 50 square miles in 1903-04 and 25 square miles in 1893-94. The headquarters of the township are at Kawkareik.

Kawkareik.

The town of Kawkareik is situated near the foot of the Dawna range on the banks of the Kawkareik stream, a tributary of the Haungtharaw, about 15 miles east by south of the junction of the Hlaingbwe aud Haungtharaw rivers. It occupies an important position on the chief trade route to Siam, that *viâ* Kyondo and Myawaddy, now served by the Public Works Department road which runs through the town. The place itself is rather straggling, and is cut in two by the Kawkareik stream, which is spanned by a wooden foot bridge. The population is somewhat mixed, but consists mainly of Taungthus, Shans and Karens. There is also a

Bengali quarter permanently inhabited by an ever changing population of immigrants from Bengal, who stay about seven or eight years and then return to India, their places and land being taken by fresh arrivals. In 1876 the total population of the town numbered 2,135 persons, which had risen to 3,919 in 1901, and 5,559 in 1911. The town is administered by a Town Committee, whose functions have already been described in detail in Chapter XI. The chief buildings in the town are the Court-house, the police-station, the Town Committee bazar, the hospital, the quarters of the resident European officers, picturesquely situated on a ridge above the hospital, and the Public Works inspection bungalow near the stream.

yondo. Kyondo is a straggling village situated on the Haungtharaw at the terminus of the Public Works Department road from Myawaddy. It is fifteen miles from Kawkareik, of which it may be said to be the port. The population is mainly Karen and native of India, the former engaged chiefly in agriculture in the plains of the Haungtharaw, and the latter in cattle breeding and in transport work in connection with the Siamese and local trade. In 1901 the total number of inhabitants was 1,423 which had increased to 2,183 in 1911.

awbein. Kawbein is a large village situated about a mile from the south bank of the Gyaing river on both banks of a tributary. In 1877 its population numbered 1,400 and had increased to 1,999 by 1901 and to 2,889 by 1911. The village contains a police-station and a District Cess Fund bungalow. Its inhabitants are chiefly Talaing agriculturists, but as usual in villages of this size, there is a sprinkling of Chinese and Indian shop-keepers. The houses are crowded very close together, but a recent extensive fire has enabled some improvements to be made in this respect.

aw-uk. Kawbauk is a large village adjoining Kawbein, the boundary between the two being purely artificial. It is rather more spacious than its neighbour, most of the houses standing in small compounds of their own. The population, which consists chiefly of Talaing agriculturists, numbered 570 in 1877 and 1,114 in 1901 and 1,909 in 1911,

anni. Kanni village, which had a population of 2,084 in 1911. is situated on the Haungtharaw. It is chiefly inhabited by Talaings who work land protected by the Kanni Migalon embankment referred to in Chapter IV.

abu nitcha. Nabu Hnitcha is a large village about 15 miles north-west of Kawkareik on the banks of the Nabu stream a tributary of the Hlaingbwe. The population consists about entirely of native of India shopkeepers, who supply all the

surrounding district, and numbered 684 at the census of 1901 and 880 in 1911.

Kyaikmaraw Township. The Kyaikmaraw township is the central township of the district. Its southern boundary is formed by the Gyaing river from its junction with the Salween to the mouth of the Pabyauk stream. The boundary then proceeds up this stream to the southern boundary of the Paingyat village tract, following which it goes on by way of the western boundaries of the Ibaing, Kayinzeik Winpok, Winka and Tihuthan village tracts to the junction of the boundary of the last-named with that between Ngapu-in and Yathe-bisakat villages. It then follows the south and east boundaries of Ngapu-in and the southern boundary of Chaunghnitkwa village tracts to the junction of the last with the Zami river, which it descends to its junction with the Winyaw. It then proceeds up the Winyaw to Tawkwin, leaving it to follow the southern boundaries of that *kwin* and Hlakazaing village tract to the boundary of the Mudon township, which is the watershed of the Taungnyo hills. The boundary proceeds along this watershed to the eastern boundary of the Moulmein township, which it follows to the Gyaing.

The township comprises the whole drainage area of the Ataran river and part of that of the Gyaing, but the southern and eastern portions are composed of rising ground covered with *indaing* jungle and sparsely populated. Two hundred and fifty-two square miles in the Kyaikmaraw and Kya-in townships were under cultivation in 1910-11. The recent formation of the latter is responsible for the lack of separate statistics. The population of the two together at the census of 1911 was 87,869. The greater share of this area of cultivation and population falls to the lot of the Kyaikmaraw township as now constituted.

Kyaikmaraw. The headquarters of the township are at Kyaikmaraw, which is situated on the left bank of the Ataran about ten miles south-east of Moulmein, with which it is connected by road. It is inhabited chiefly by Talaing agriculturists, the population numbering 822 in 1877 and 1,597 in 1901 and 2,497 in 1911. The principal buildings in the place are the Township Court and offices, District Cess Fund bungalow and a police-station.

Nyaungbinzeik. Nyaungbinzeik is a large and wealthy village on the right bank of the Ataran, and by virtue of its ferry is almost a suburb of Moulmein. The population, which numbered 2,138 in 1911, is largely Burman, and is employed in petty trade, agriculture, fishing, and in the pottery and tile-making industries described in Chapter VI.

Kayon. Kayon is a village situated near the celebrated farm caves about five miles from Moulmein. It is the centre of large betel-nut and sugarcane gardens. The population is chiefly Talaing and numbered 1,142 at the census of 1911.

Tarana. Tarana is a large Talaing village of nearly 2,500 inhabitants, situated on the bank of the Gyaing. It has long been a place of some size, its population in 1877 numbering 1,617. The inhabitants are almost exclusively engaged in agriculture.

Kawthat. Close to Tarana about a mile from the river is Kawthat, a village of similar character. Its population was 2,121 at the 1911 census.

Dhammathat. Dhammathat is a picturesque village on the bank of the Gyaing, a few miles above Tarana and seven miles from Moulmein. It lies at the foot of one of the large limestone hills which form so characteristic a feature of these plains, and is chiefly notable for its caves, which run right through the hill. The walls and roofs are in some instances decorated. The only other points of note in the place are the number of its *pongyis* and of the pagodas which stud the hill. Its population in 1911 numbered 1,604.

Peinnegon. Peinnegon on the left bank of the Ataran was originally a Shan settlement, but the present population, which numbers over 2,000, is chiefly Talaing. The principal occupations of the villagers are agriculture and garden cultivation.

Hnidon. Hnidon, also on the left bank of the Ataran, is a village of Karen and Burman agriculturists, who numbered 1,292 at the 1911 census.

Kya-in Township. The Kya-in township was constituted in 1911, so that no separate statistics, census or otherwise, are as yet available with regard to it. The bulk of it was carved out of the previous Kyaikmaraw township, which had an area of 2,475 square miles. Kya-in township is poor and sparsely populated, comprising the forest covered interior regions of the district. Its northern boundary marches with the southern and eastern boundaries of the Kyaikmaraw township, and the western boundary of the Kawkareik township, while its eastern and southern boundaries are formed by the Siamese frontier already described in Chapter I. Its western boundary, starting from Hsadeik *taung* on the frontier, is the watershed between the Winyaw and Ye rivers as far as the centre line of the Taungnyo hills, which forms the eastern boundary of the Ye, Kyaikkami and Mudon townships, which adjoin Kya-in township on the west.

Kya-in Seikkyi. The headquarters of the township are at Kya-in

Seikkyi on the right bank of the Zami river. The village is not as yet of any considerable size, and contains nothing of note beyond the new Township Court and offices, a District Cess Fund bungalow and a police-station. It is the terminus station of the launches which ply on the Ataran and Zami. Its population in 1911 numbered 958.

Kale is a large village situated between the Winyaw stream and the Taungnyo hills about six miles south of the junction of the Zami and Winyaw. It is a long and scattered village, almost every house standing in its own compound. It is situated in the middle of a long stretch of paddy land which lies between the *indaing* forest at the foot of the Taungnyo hills and the jungle along the banks of the Winyaw. Its population, which numbered 1,026 in 1901 and 1,625 in 1911, is chiefly composed of Karens engaged in agriculture, garden cultivation, wood cutting, and cattle grazing for hire. The village was until recently the centre of a very large circle and the place of residence of the *taikthugyi*, but the circle has now been subdivided and the subordinate village headmen have been made independent. Kale.

About two miles south of Kale stands the equally large village of Tagundaing, which is situated in the form of a circle round a large swamp, which serves as a grazing ground for the local herd of buffaloes. The village is considerably older than Kale, and was originally the headquarters of the circle, which is still locally known as the Tagundaing circle. Its inhabitants are of the same race and occupations as those of Kale, and numbered 1,165 in 1901 and 1,261 in 1911. Tagundaing.

The Amherst subdivision comprises the coast lands between the Taungnyo range and the sea and the valley of the Ye river. It consists of three townships, Mudon, Kyaikkami and Yelamaing. The Subdivisional Officer's headquarters are at Amherst, the vernacular name of which is Kyaikkami. Amherst Subdivision.

The Mudon township is the most westerly in this subdivision. On the north it adjoins the Moulmein township, and on the east the Kyaikmaraw and Kya-in townships. Its southern boundary is formed by the Wagaru river, and its western by the Gulf of Martaban and the Chaungzon township. The township is for the most part flat and fertile, consisting of alluvial soil which produces some of the best paddy in the district. The population, which is chiefly Talaing, is dense, and numbered 59,808 at the census of 1911, the area of the township being 230 square miles, Mudon Township.

of which 162 were under cultivation in 1910-11. The population in 1901 was 52,746, and in 1891 was 40,761.

Mudon. The headquarters of the township are at Mudon, which is situated nine miles south of Moulmein on the Moulmein-Amherst road. It has long been a place of some importance, its population in 1880 being as such as 2,475. It has at present a population of 3,184 inhabitants The majority of the inhabitants are Talaing cultivators. The chief buildings are the Township Court and offices, a police-station and a bungalow. The village is a large trading centre in the paddy of the Mudon plain, which has a more than local reputation for size and evenness of grain.

Kwandon Close to Mudon is situated the village of Kwandon, which is also Talaing and agricultural. Its population in 1911 was 2,759. Within a mile of this village is the Kangyi lake, which bears a sacred character. Boat races are held on it annually and attract large numbers of people.

Kamawet and Kalawthut. Kamawet is a large village south of Mudon about a mile from the Moulmein-Amherst road. Its population, which chiefly consists of Talaing agriculturists, numbered 989 in 1877 and 1,760 in 1901 and 1,820 in 1911 South of Kamawet is the village of Kalawthut, which is of similar character. It had 1,076 inhabitants in 1877 and 1,571 in 1901 and 1,961 in 1911. In the vicinity of these villages is the Kyaikmamaw pagoda, the annual festival of which is largely attended by pilgrims from Moulmein and the neighbouring country. Of the history of the pagoda nothing appears to be known.

Tagundaing and Pa-auk. Other large villages in the township are Tagundaing and Paauk, the inhabitants of which are Talaing agriculturists numbering 1,478 and 1,664 respectively at the 1911 census.

Kyaikkami Township. Kyaikkami township borders on the Mudon township on the north, Kya-in on the east and Yelamaing on the south. Its western boundary is the Gulf of Martaban. It has not the fertile character of its northern neighbour, but consists largely of extensive stretches of upland covered with jungle, among which are scattered paddy *kwins*. Out of a total area of 928 square miles 52 square miles were under cultivation in 1910-11, as compared with 33 in 1903-04, the latter being more than double the cultivated area in 1893-94. The population is chiefly Talaing, and at the census of 1911 numbered 23,105, as compared with 15,676 in 1901 and 12,988 in 1891.

Amherst. The headquarters of the township are at Amherst, which is situated at the mouth of the Wagaru river about 30 miles south of Moulmein by river and 54 miles by road.

The situation is rendered very picturesque by a bold range of wooded hills on the landward side of the town. A fine harbour is provided by the mouth of the Wagaru river. Amherst's period of prominence was but brief. Originally selected by Mr. Crawford to be the headquarters of the Tenasserim provinces, it was superseded within a year by Moulmein for strategical reasons. The proximity of Moulmein has effectually prevented its developing into a port of any importance. Its original selection and christening after Lord Amherst, the Governor-General, have however given the district the name which it bears to this day. During the second Burmese war the town served as a sanatorium for the sick and wounded, and it is still the sanatorium of Moulmein. The Talaing name, Kyaikkami, "the floating pagoda," is said to be derived from the Yele pagoda situated on the rocks near Amherst Point. The annual festival of this pagoda, held at the end of the Buddhist Lent, attracts pilgrims from all over the district and from other parts of Lower Burma. The chief object of veneration is an image of Buddha said to have been brought from Ceylon and believed to be fashioned from a southern branch of the sacred ***Budi*** or banyan tree of ***Budhagaya***. The population of the town is chiefly composed of Talaings engaged in agriculture, fishing and petty trade, but it also includes a considerable number of Mussulman traders. In 1901 the inhabitants numbered 1,373 which had risen to 3,429 by 1911.

Wagaru. Wagaru, which according to the census of 1911 has a population of 2,539 inhabitants, chiefly Talaing cultivators, is situated near the source of the Wagaru river. It was formerly the headquarters of the township, and was once a flourishing town. It is said to date back five centuries and to have been founded by King Kadu, and portions of walls and a moat still remain. There are two pagodas of note in the vicinity, known as Kyaiknapo and Kyaiknan, in connection with which an annual festival is held.

Karokpi. The village of Karokpi is situated near the coast at the mouth of the Karokpi stream. Tradition says that it was founded by three Chinamen, and hence its name. The headquarters of the Extra Assistant Commissioner in charge of the township were transferred here from Amherst in 1869, but were retransferred a few years later. The village, which had a population of 3,100 in 1911, is the chief trading centre in the south of the township and exports paddy and salt. The local salt industry is in the hands of Chinamen, and there are also a few Indian petty traders, but the bulk of the inhabitants are Talaing

cultivators. An old wooden viaduct, two miles in length, connects this village with its neighbour Panga, but it is now sadly in need of repair.

Panga. Panga, which had a population of 552 in 1,877 and 1,213 in 1901 and 2,474 in 1911, is situated on the north bank of the Panga *chaung*. It is a Talaing agricultural village, and possesses some valuable doorian gardens. The soil in the vicinity is very suitable for rubber cultivation, as is being successfully demonstrated by the Moulmein Rubber Plantations, Limited. Some of the villages are engaged in the local salt industry.

Yelamaing Township. Yelamaing township is the most southerly township in the district. It is bounded on the north by Kyaikkami township, on the east by the Kya-in township and Siam, on the south by the Tavoy district, and on the west by the Gulf of Martaban. A detailed description of the Siamese and Tavoy boundaries has already been given in Chapter I. Out of an area of 1,258 square miles, much of which is hilly and covered with jungle, 101 square miles were under cultivation in 1910-11. The culturable portion of the township lies chiefly along the coast and in the valley of the Ye river and its tributaries, and is deeply intersected by salt water creeks. In 1903-04 the cultivated area was only 73 square miles, which, however, was an increase of 130 per cent. within the previ us decade. The population, which is chiefly Karen and Talaing, numbered 35,580 at the census of 1911 as compared with 25,973 in 1901 and 18,158 in 1891.

Ye. The headquarters of the township are at Ye, a town situated on the Ye river about 12 miles from the sea. It is a place of considerable antiquity, and is said to have been founded in 92 B.E. by Princess Maradevi, who came from Tavoy, and who named it Awaikzazayapura. The name was subsequently changed by King Damaseti to Yazathihazeyupura. In Burmese times it was the local centre of Government and was strongly fortified, portions of the moat and wall being still extant. During the first Burmese war it was occupied without resistance by a small British force despatched from Martaban at the capture of the latter place. In 1877 it had a population of 2,694. This had risen by 1901 to 3,500 and by 1911 to 4,980. There are some fertile paddy lands and doorian gardens in the vicinity of the town. Formerly there were two saw mill-, but only one is now working owing to difficulty in disposing of the timber, which used to be employed in a considerable boatbuilding industry, now decadent owing to competition from

Rangoon. Ye is the chief trading centre of the southern part of the township, but the volume of its trade is small. The chief buildings in the place are the township court and offices, the post and telegraph office, police-station and hospital. The Kelatha pagoda at Ye is reputed to contain some of the hairs of the Buddha.

Hanga[n]. About six miles from Ye on the Hangan stream, the chief tributary of the river, is the Talaing village of Hangan. The population, which numbered 2,111 in 1901 and 2,522 in 1911, is now entirely agricultural, but formerly the boat-building industry flourished here also. *Dhani* thatch-making is an important domestic industry.

Asin. Asin, another Talaing agricultural village, is situated on the right bank of the Ye river about a mile from its mouth. It had a population of 1,827 in 1911.

Taungb[on] and Thaun[g]byin. Taungbon village is situated on the Taungbon stream about eight miles from Ye. Its population, which numbered 1,924 in 1911, consists chiefly of Talaing agriculturists, but also includes a sprinkling of Tavoyans. Salt was formerly manufactured here, but the industry has now been stopped under the orders of Government. The neighbouring village of Thaungbyin, which had a population of 2,307 in 1911, is of similar character.

Kawd[ut]. Kawdut is a fairly active trading centre situated at the mouth of the Kawdut stream. Its population, which is chiefly Talaing, numbered 2,144 in 1911. It exports a considerable quantity of the paddy grown in the Lamaing plain, and has also an extensive trade in the salt manufactured at Hnitkarin.

Lamai[ng]. Lamaing is a Talaing agricultural village situated on the Lamaing stream about four miles from the sea in the middle of a fertile paddy plain. In 1901 its population numbered 1,384 which had risen to 2,092 in 1911. The celebrated Sandaw pagoda here is said to contain a hair of Gaudama, and its annual festival attracts large numbers of pilgrims.

Kalagauk. About five miles from the mouth of the Lamaing stream is the island of Kalagauk, which has become important owing to the working of its extensive quarries by the Rangoon Port Trust. These quarries are in the charge of an Assistant Engineer vested with the powers of a third class magistrate.

BIBLIOGRAPHY.

British Burma Gazetteer, 1880.

Manuscript letter books in the Office of the Commissioner, Tenasserim Division, 1825—1865.

Colonel Duff	...	Report on Revenue Administration, 1867.
Dr. Falconer	...	Report on the Tenasserim Teak Forests, 1852.
Messrs. Barr and Coryton		Report on land tenure in Moulmein, 1871.
Captain Horace Brown	...	Settlement Report, 1868.
Mr. A. P. Pennell	...	Settlement Report, 1891-92.
Mr. A. Gaitskell	...	Settlement Reports, 1892—94, 1894-95, 1895-96.
Mr. G. P. Andrew	...	Settlement Report, 1906-07.
Mr. P. E. Jamieson	...	Settlement Report, 1911-12.
Mr. T. C. Wilson	...	Settlement Manual.
Imperial Gazetteer	...	Burma.
Sir George Scott	...	Burma.

List of objects of antiquarian and archæological interest in British Burma, 1892.

Annual Statement of Sea-borne Trade and Navigation of Burma, 1910-11.

Report on the Demarcation of the Amherst-Siam Boundary, 1895-96.

Census Report, 1911.

Main File, Territorial Divisions, Office of Deputy Commissioner.

INDEX.

A

B

C

D

E

F

F—concld.

G

H

I

I—concld.

K—concld.

L

M

N

O

P

R

R—concld.

S

T

T—concld.

U

V

W

Y

G. B. C. P. O.—No. 46, Dist. Gazr., 4-10-1913—370—F. X. deC.